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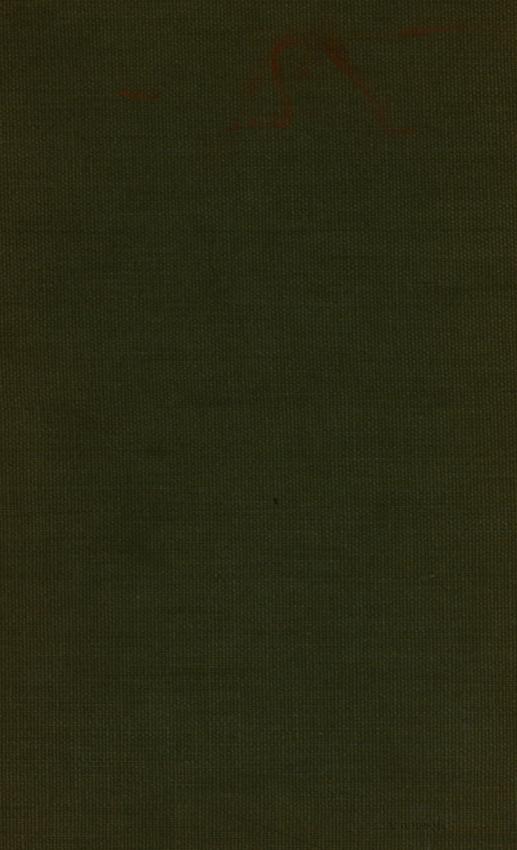
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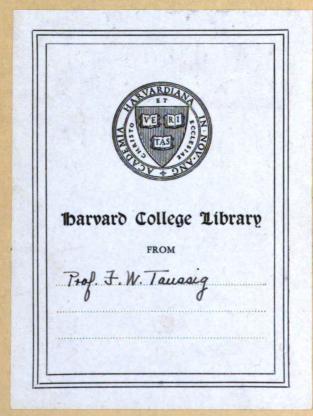
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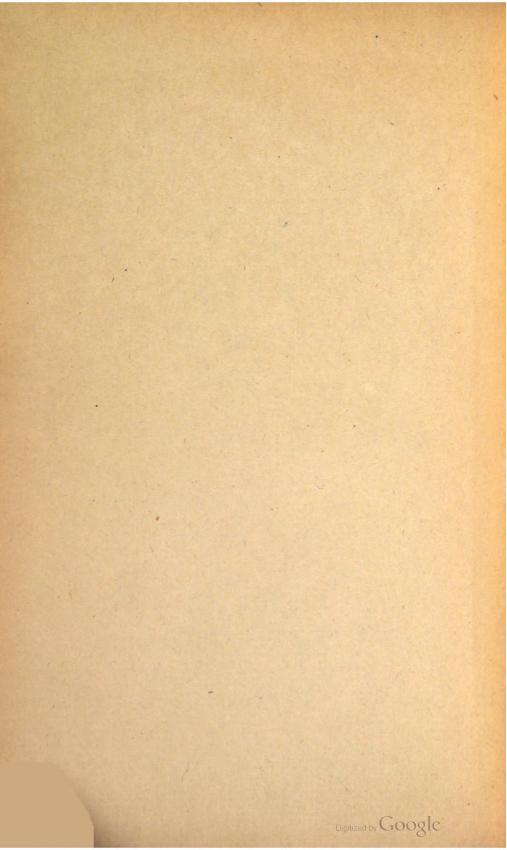
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RAILROAD RATE CONTROL

BY

HARRISON STANDISH SMALLEY, Ph.D.

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IN ITS LEGAL ASPECTS

A STUDY OF THE EFFECT OF JUDICIAL DECISIONS UPON
PUBLIC REGULATION OF RAILROAD RATES.

BY

HARRISON STANDISH SMALLEY, Ph.D., Instructor in Political Economy University of Michigan 1905. - en 1 10.4

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INTRODUCTION.

The following chapters are devoted to one of the phases of the railroad problem. Their purpose is to disclose the relation which has come to exist in this country between the courts and the railroad commissions. To this end they attempt to trace the development of what is termed the doctrine of judicial review—the principle that the courts have jurisdiction to review rates made by commissions and to restrain the enforcement of such as may be found unreasonable. They next endeavor to determine how seriously this doctrine, in its practical application, has affected the efficiency of such commissions as are empowered to establish schedules of railroad rates. And finally, from the difficulties thus disclosed, they venture to point out the possible avenues of escape.

Manifestly the discussion of a subject which involves but one phase of a problem, cannot appear in its proper light without some preliminary exposition of the problem as a whole. Yet so thoroughly familiar are most of the aspects of the railroad problem that their extended treatment must be entirely unnecessary. Accordingly the author has confined himself, in the first chapter, to a portrayal in barest outline of the historical back ground of the problem and of its basis in economic theory. Only those matters which bear a very important relation to the particular question discussed in the later chapters, are subjected to comment of any length. Indeed the whole purpose of the preliminary chapter is to cast the light of history and of theory upon the problem of judicial review, in order to discover its significance, and to determine the point of view from which it should be regarded.

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It will be noticed that throughout the work reference is made only to rates established by state commissions, and to the judicial doctrine pertaining thereto. doctrine, as will be shown, is based upon the Fourteenth Amendment to the Federal Constitution, which forbids each state to deprive any person of property without due process of law, or to deny to any person within its jurisdiction the equal protection of the laws. Up to the present time, therefore, the judicial doctrine has operated only as a restraint upon state railroad control. significance of the doctrine is much broader than that fact would imply. For the Fourteenth Amendment, in so far as it attempts to preserve the rights of private property from invasion by the states, has a counterpart in the Fifth Amendment, which forbids the national government to take property without just compensation and without due process of law. It is evident, therefore, that should the federal government ever attempt to fix railroad rates the doctrine of judicial review would be extended to embrace such regulation.

At the present writing (April 14, 1906) it seems probable that before long Congress will enact a rate regulation law, and should that event occur the matter will at once become of great importance. For even if an amendment providing specifically for judicial review should not be incorporated in the act, the courts would nevertheless possess that right just as fully as they now do in regard to state control. Even a provision for judicial review to determine whether rates are "fairly remunerative" would not change the scope of the judicial investigation, for that, as will be seen, is the purpose of judicial review under the Constitution. Thus the courts would assume the same relation to the Interstate Commerce Commission that they now maintain toward the state commissions, and consequently the same serious difficulties which

now confront the states would await the agencies of national control.

But the doctrine of judicial review is of even wider importance, in that it applies not only to the regulation of railroad rates, but to public control of charges in other lines of business as well. Whether the doctrine elaborated in railroad cases is to govern the courts in passing upon charges prescribed by the legislatures for private industries which have become so far affected with a public interest as to be subject to government control of their rates—such as warehouses and stock yard companies is not clear, especially in view of such cases as Budd vs. New York, Brass vs. Stoeser, and Cotting vs. Kansas City Stock Yard Company. Mr. Justice Brewer's remarks in the last named case, though uttered obiter, are interesting because of their suggestion of a different form of review in cases involving industries of this kind. However that may be, there is no doubt that the doctrine of judicial review worked out for railroads applies also to the regulation of other forms of public business. so the same restraints placed upon government control of railroads exist in the case of all public service or quasipublic corporations, limiting, for example, the public regulation of street railway fares, and of gas and water These facts lend additional interest to the following inquiry as to the limits which the courts may set, under our Constitution, to public control of railroad rates, and as to the justice and expediency of such limitation.

CHAPTER I.

PUBLIC REGULATION OF RATES.

Public control of railroad rates has existed in this country for hardly more than a third of a century. Prior to about 1870 it was the policy of our governments, both state and national, to let railroad traffic matters alone. Indeed, with the exception of a few statutory provisions designed to promote security of life and limb in the operation of railroads, no public regulation of any kind was attempted. On the contrary, the American governments very generally encouraged and supported railroad enterprises through substantial grants of land and money. That railroad companies would ever require any considerable measure of restraint or control was not at first imagined, for they were regarded as public benefactors. And that there could be anything hostile between their interests and those of the public was not apparent until many years had passed and our railroad system was fairly well developed. When the fact did appear, however, many of the states were not slow to adopt a definite policy of regulation, in which lead they were followed in 1887 by the Federal Government. The initiation of this policy, then, was not the result of speculations concerning the proper functions of the state, but on the contrary was caused by the appearance of serious abuses in railroad management, and by the realization that they were the inevitable consequence of unrestricted private control. What these abuses are, and in what characteristics of the railroad industry they have their origin, it is important to observe in order to appreciate the significance of those measures which the public has adopted for their correction.

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In any statement of railroad evils attention is most naturally directed first to unjust discrimination, as the most serious of all. "Discrimination" is a term which, as applied to railroads, embraces, if it does not cover, a multitude of sins. The forms which unjust discrimination may take are myriad. There may be undue preferences in rates as between persons, or communities, or commodities, or connecting lines. Again, the preference may be involved, not in the rates themselves, but in personal favors to the fortunate shipper, or in the character of the service rendered, as in a most abundant car supply, or more expeditious carriage. When involved in the rates, however, the discriminations may be effected through differences not only in the charges for carriage, but in the charges for other services, such as loading, switching, storage, and demurrage. Discriminations in rates may be public, appearing in the printed schedules of the company, but in the vast majority of cases they are privately made. When so made they most commonly take the pernicious form of secret rebates, though not infrequently they are effected through the equally vicious But there are innumerable practice of false billing. other ways. Ouite recent investigation has brought to light the discriminations concealed by the incorporation of the so-called "industrial roads." "Midnight schedules" are also a late discovery—so far as the public is concerned—and the private car abuses are also fresh in So far as passenger traffic is concerned, the connivance of railroads with scalpers has long been a familiar story. In these, then, and many other ways do the railroads too frequently succeed in evading their duty as common carriers to serve all on equal and reasonable terms.

The mere enumeration of these practices, however, is sufficient to prompt the inquiry as to why railroad man-



agers are disposed to indulge in them, since they must mean in many cases a reduction in revenue, and in all cases must tend to complicate the already difficult administration of the property. In reply it may be said that railroad managers do not often desire to discriminate, that on the contrary they are usually loath to do so, but that they are driven to that course whether they will or no. Under the conditions of competition as it prevails among railroads, there is no alternative except between discrimination and speedy insolvency.

The explanation of this fact is found in one of the characteristic features of the railroad industry, namely, the relation between expenses and volume of traffic. Expenses increase but slightly when traffic increases greatly. This is true not only because the fixed expenses of any railroad company are so large a proportion of the whole, but because even the variable items of expenditure do not begin to keep pace with the growth of traffic. These facts lead to two important immediate results. first place, railroad managers are under a constant and powerful incentive to get business even at reduced rates. They realize that an increase in traffic means a much more than proportional increase in net earnings; in other words, augmented business means a decided reduction in the cost of carrying each unit of traffic. Since this is so, they are not only inspired to seek customers in all the commercial highways and hedges, but they are also strongly tempted to accept traffic at reduced rates-indeed to offer reduced rates in order to secure it. now a second consequence of this peculiar relation between expenses and volume of traffic is, that it is utterly impossible to determine what any given service will cost the company. A traffic manager, therefore, tempted as

¹ It is not only impossible to determine in advance the cost of rendering any particular service, but it is impossible to discover what that cost has been even at the end of the year when all accounts are



he is to accept each item of traffic if need be at a reduced rate is entirely without data which would enable him to fix the point below which a rate would be unremunerative. Such being the case, his conduct under the stress of competition is most natural. He offers whatever rate is necessary to get the business away from his rivals, devoutly hoping all the time that the rate will not prove injurious to his road, but utterly without means of judging its effect. The outcome is that traffic managers are swayed by an impulse to accept traffic at almost any rate, if compelled to do so by competition. "Get business" is their motto. "Get it at a high rate, if possible; at a low rate if necessary; but get it."

The consequences of this fact are familiar to all. Competition between railroads is fierce and intense, and constantly tends to develop into the "cut-throat" variety, ending perhaps in the all too familiar "rate wars." Dominated by the passion for traffic, eager to snatch it from competing lines, each road cuts rates wherever necessary, or offers other advantages to get the traffic for itself. And thus swarm into industrial life that horde of evils to which allusion has been made—the evils of unjust discrimination. Thus are railroad managers compelled by the exigencies of their business to wield unceasingly a tremendous power through which one man, one industry, one town may be built up, while others are crippled or destroyed. Of course it may happen that a powerful industry may secure such an influence in the control of a railroad that discriminations may intentionally be in. It is practically impossible to apportion the total expenditures among the various kinds of traffic-freight, passenger, milk, express, and mail. And even if the freight expenses could be determined, it would be impossible to apportion them among the various individual items, so as to determine cost of carriage, terminal expenses, etc., of each, or even the total cost of each. Cost keeping is impossible in the traffic department of a railroad.



made for the purpose of crushing the former's rivals; but even where this element is lacking, unjust discrimination is not only a possibility in railroad management—it is a natural and inevitable consequence of all unrestricted railroad competition. Railroads do not usually wish to discriminate, but they are compelled to do it. Discrimination may drive them into bankruptcy, but abstinence from it is sure to do so, so long as competition persists. They discriminate in order to live—though their discrimination may sometimes kill them.

A second railroad evil hardly less serious than that just considered, and certainly no less the outgrowth of causes inherent in the business, is extortion. The imposition of exorbitant charges is in large measure a consequence of monopolistic elements in the railroad industry. Many communities enjoy the services of but one railroad, and of no other means of transportation; and while the number of such places is at present slowly diminishing, there is no doubt that to the end of time the number will continue large. Of course as to such points there can be no competition at all. Even potential competition almost wholly fails as a restraining force, because of the immense cost of duplicating a railroad's plant and equipment, and because of the long time which the process of duplication must consume. The railroads are consequently free, in the absence of government control, to fix rates on the monopoly principle of maximum net return. practical limitation upon their power is that which arises from the influence of rates at competing points upon rates at intermediate points, but even this, as experience has abundantly shown, is wholly inadequate. Extortion may exist, moreover, even in the presence of competition. The nominal, or public rates applying to competing points may themselves be exorbitant. Of course discriminations, as already explained, result in a lower charge being exacted from most shippers, but the small or innocent shipper may very likely have to pay the scheduled rate. And of course arrangements such as pools, consolidations, or communities of interest, may be made which destroy competition in whole or in part, temporarily or permanently. To the extent to which such arrangements are effective, rates are subject to the arbitrary control of the railroads. The public has no guarantee of reasonable charges.

A third evil of private railroad management is instability in rates. The industrial interests of every community demand that railroad charges shall be stable. The transportation factor is an essential one in all industries, and accordingly an element of transportation expense is present in the cost of practically every commodity. For railroad rates, therefore, to be unstable is to introduce an element of serious uncertainty into all business. That this is a highly undesirable thing needs no argument. Yet the fact that the public interest demands stability in rates is not always a conclusive argument with the traffic manager. Private railroad management furnishes no guarantee that rates, once established, will remain unaltered until changing industrial conditions demand their alteration.

Such are the principal evils so far as rates are concerned, which have grown up with the development of the railroads, and against which legislation has been directed.² Through just what measures the public has endeavored to abate these mischiefs, it is now appropriate for us to inquire.

^a Certain other evils, such as the granting of free passes to public officers; attempts to evade or limit liability; and incompetent or negligent maintenance and operation of roads, are not dealt with here, as they are not of importance in connection with the subject of this work.

Legislation designed to prevent unjust discriminations has, up to the present time, taken chiefly the form of prohibitions against such practices, coupled with penalties for infraction of the law. In many states railroad comsioners have been charged with the duty of discovering violations of the law, and of directing against the guilty parties the prosecuting agencies of the government, but in many other states these agencies have been left without special assistance in this work. Leaving out of account a few minor provisions of law, our governments, both state and national, have rested content with this merely prohibitory legislation.

Against extortion also have been leveled prohibitory statutes, reinforced with penal provisions. To these have been added other laws forbidding the merger or consolidation of competing railroad companies, and declaring that no arrangements in the nature of a pool shall be enforcible at law. These provisions have been designed to preserve competition wherever it exists, thereby preventing the companies from fixing monopoly rates. addition to these two classes of laws, a number of states. as well as the United States, have endeavored to solve the problem through the appointment of railroad commissions invested with a general authority to supervise railroad companies, and, among other things, to advise with them in regard to their rates. The majority of states, however, which have established commissions, have gone further than this, and have empowered their commissions actually to fix rates for the railroad companies. instances the legislatures have themselves exercised this power and have passed maximum rate laws. seen that the states have resorted to several expedients to obviate the danger of exorbitant railroad charges.

The measures which have already been mentioned are also designed to secure stability in rates. Laws against

unjust discrimination and extortion, insofar as they are successful, must necessarily prevent those disturbances in schedules which are so injurious to all business. And especially effective in producing this result must be the public regulation of rates. No further measures, therefore, peculiar to this difficulty, have been alopted by the states.

In these various ways, then, have our governments endeavored to correct the evils of private railroad management. How, now, let us ask, have these attempts at control been regarded by the companies? To which, if any, have they offered resistance in the courts?

While railroad companies have no doubt often felt that they were being much abused, they have made no serious effort to disprove the validity of certain laws. Thus those general provisions requiring reasonable rates and service, forbidding unjust discrimination and extortion, have been generally recognized as within the proper scope of legislative power. So also anti-pooling and anticonsolidation clauses, being no more than adaptations to modern conditions of the old common law rule on restraint of trade, are generally acknowledged to be valid. Even an advisory commission empowered to recommend changes in rates is conceded to be a proper creature of the police power. Such methods of control as these, railroads have as a general rule refrained from resisting in the courts. They have rather exercised their ingenuity to discover methods of rendering them nugatory in practice.

But the case has been entirely different with statutes fixing rates or establishing commissions with power to fix rates, From the very beginning of railroad control the companies have resisted such laws with tireless energy. Case after case has been started, and very few which in the trial courts have been decided adversely to the roads.

have been abandoned until a ruling has been obtained from the Supreme Court of the United States. Every argument has been used to defeat these measures of public regulation, and the ablest counsel in the country has been employed in the attempt to accomplish that end.

The grounds upon which the resistance of the railroads has been based are four in number:

- 1. That the legislature has no right to fix rates.
- 2. That, even conceding that right to the legislature, some of the state laws have been void insofar as they have attempted to regulate interstate commerce.
- 3. That, again conceding the legislature's power, the charters of some companies exempt them from its exercise.
- 4. That, still conceding the legislature's right, its power is not absolute, but the rates are subject to review by the courts. Rates ought to be reasonable, even if made by the state, and whether they are or not is a judicial question, and cannot be conclusively determined by the legislature.³

Let us examine each of these contentions, and the reply which has been made to it by the Supreme Court of the United States.

I. It was most natural that railroad rate regulation should first be most vigorously resisted on the broad ground that the legislature is without constitutional power to fix rates, directly or indirectly. The spirit of our institutions—legal, political and economic—contemplates the widest possible freedom of individual action in industry, and limits the play of government interference within very strict bounds. Especially are prices, rates, and

^a In addition to these objections it will be recalled that the power of the Interstate Commerce Commission to fix rates was successfully resisted on the ground that Congress never intended to confer it upon the Commission. See I. C. v. C. N. O. & T. P. Ry. Co., 167 U. S. 479.



so forth left to the determination of competitive forces. But this is not all. The constitution of the United States contains in unmistakable terms a guarantee of the rights of liberty and property, as against both the federal and state governments. In view of the former fact it is not altogether surprising that the railroads should have at first regarded governmental control of rates as a denial of fundamental rights which have been the product of centuries of Anglo-Saxon history. In view of the latter fact, it was inevitable that they should promptly call in question the constitutionality of such measures of control. In the first cases which arose, therefore, this argument was pushed to its farthest limit, and the question was thus squarely presented as to whether rate control is an infraction of the Constitution, or, on the other hand, is a proper exercise of the recognized police power of the states.

The so-called "Granger-Cases" were the first in which this question was at issue, and were the cases in which it was definitely determined. In those cases the right of the legislature to regulate rates was firmly established, and in those and succeeding cases the basis on which that right reposes was clearly stated. The railroad business is essentially a public business, and, therefore, railroad companies, though private corporations, have devoted their property to public use and are discharging a public function. This being the case, it naturally follows that in the employment of their property, in the conduct of their business, railroad companies must be subject to pub-

*The "Granger Cases" were eight in number, and all arose under the "Granger Laws" which had been passed in Illinois, Iowa, Wisconsin and Minnesota. The leading case, Munn v. Illinois, involved the validity of a statute fixing maximum rates for the storage and handling of grain in public warehouses, but all the other suits dealt with railroad laws. See table of cases for their titles. All of the cases ultimately reached the federal Supreme Court and were decided in 1876. They are reported in 94 U. S. 113, et seq.



lic control. It would be intolerable that the management of a public industry, and especially rates to be charged by it, should be left to the ungoverned whim of private parties, to whom the state had delegated its function in order that the public might be served. The right of the state to control rates, therefore, flows from the very nature of the railroad industry.

That the railroad business is public in character is a proposition which the Supreme Court has maintained upon three separate grounds, each of which would seem to be sufficient in itself. In the first place a railroad company is a common carrier, and, as was said by Mr. Chief Justice Waite, "common carriers exercises a sort of public office, and have duties to perform in which the public have an interest." In another of the Granger cases he added: "Railroad companies are carriers for hire. They are incorporated as such, and given extraordinary powers in order that they may better serve the public in that capacity. They are, therefore, engaged in a public employment affecting the public interest and (are) subject to legislative control as to their rates of fare and freight."6 And this control of the rates of common carriers, as the Chief Justice pointed out, was exercised as long ago as the third year of the reign of William and Mary.7

In the second place a railroad is a public highway, and it has always been recognized that the creation and maintenance of public highways is a function of the state. A railroad company, therefore, is engaged in a public business. "A railroad is a public highway," declared Mr. Justice Harlan in Smyth v. Ames, "and none the less so because constructed and maintained through the agency of a corporation deriving its existence and powers



Munn v. Illinois, 94 U. S. 130.

⁶C. B. and Q. Rd. Co. v. Iowa, 94 U. S. 164.

¹3 W. & M., c. 12, Sec. 24.

from the state. Such a corporation was created for public purposes. It performs a function of the state." 8

In the third place, the grant of the right of eminent domain and its use by railroad companies is incontestable proof of their public character. A fundamental principle of the law of eminent domain is that the power shall be exercised for a public purpose and for a public purpose only.9 The grant of that power to a railroad is therefore tantamount to an assertion by the state that a railroad's business is public-that its property is devoted to a public use—and the acceptance of the power by the company is likewise equivalent to a confession of that fact. Were it not so the exercise of the power by the railroads would be wholly unjustifiable.¹⁰ Closely allied to this consideration is another. In this country railroads have been the beneficiaries of much public aid. many places taxes were once levied to assist the com- 4 (?) panies in the construction of their roads; and whatever may be said as to the wisdom of this policy, the validity of these taxes, in the absence of special constitutional But taxes restraint, is beyond doubt. Yet it is also a fundamental to re rule of the law of taxation that the power shall be used Grund only for a public purpose. Therefore it may be said here, as was said of the eminent domain, that the levying of the taxes was an assertion by the state, and the acceptance of their benefits an admission by the railroads, that I the industry is public.

But while we have here three grounds on which it is possible to argue that the railroad business is public, it will be observed that there is an important distinction between the first two and the last. The first two are

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⁶ 169 U. S. 544. See also Lake Shore, etc., Ry. Co. v. Smith, 173 U. S. 690.

^{*}Cooley; Constitutional Law, 3rd ed., p. 366.

¹⁰ See Smyth v. Ames, 169 U. S. 544.

causes of the public character of the industry; the last is a consequence of it. Railroads are public because the roads are public highways and the companies common carriers; but they are not public because the powers of eminent domain and taxation have been exercised for their benefit. In other words, the exercise of these powers has not created publicness in the industry, for they cannot lawfully be used except for a purpose that is already intrinsically public. Their exercise, therefore, is not the cause of publicness, but rather a test or proof of it. it furnishes a good argument for the validity of government control, for the railroads, having received the benefit of these important sovereign prerogatives, are forever estopped from denying the public character of their business—a character but for which the use of these powers would have been unlawful.

The railroad industry is therefore a public industry.¹¹ and because of that fact it is subject to legislative control as to its rates. This legislative power extends of course to all business of a public character, and therefore applies not only to railroads but to all public service corporations, such as other common carriers, municipal lighting, water and street railway companies, and so forth. It is well established, however, that the right of a legislature to regulate rates and prices extends not only to such industries as these, but to others which are not public in character as well. This fact and the reason for it, have frequently tended to produce confusion of thought as to the real legal basis of railroad control. At the risk of a digression, therefore, it seems advisable to inquire into the ground upon which the Supreme Court sustains a legislature's right to fix prices for a non-public industry, in order that the ground upon which railroad control is based may be clearly distinguished.

¹¹ See Lake Shore, etc., Ry. Co. v. Smith, 17.2 U. S. 690, 696.

The general doctrine of the Court is that when property is "clothed with a public interest," or "devoted to a use in which the public has an interest," it becomes subject to legislative control as to its price, or as to the rates for its use. The doctrine in this form has been vigorously assailed, as far too sweeping and as lacking in What is to limit the discretion of the legisdefiniteness. lature? the opponents of the doctrine inquire. Is it not true that almost all business is affected with a public interest? What industry is there in which the public has not_some measure of concern? Yet must all prices be liable to variation at the whim of a legislature? Such questions suggest the criticisms which have been made again and again and which have come from members of the bench as well as from the general public. Mr. Justice Brewer, for example, while upholding in no uncertain terms the power of a state to control public industries. such as railroads, submitted a most spirited dissent from the opinion of the Court in Budd v. New York 12-a case in which a statute imposing rates of charge for warehouses was upheld by the majority of the court.

But in spite of criticism, the doctrine as a general proposition has become firmly established. It is subject, however, to considerable limitation. Not all business which is clothed with a public interest is subject to legislative control of its rates—but only such industries as exhibit qualities or peculiarities which mark them as fit subjects for public control. But what are the characteristics which will have this effect? This question cannot be answered with perfect definiteness, for the Court has never marked out clearly all of the limitations of its doctrine. Certain general ideas are involved in its decisions, however, and may be stated, There can be no doubt whatsoever that if an industry is public in char-

^{19 143} U. S. 517.

acter it is "affected with a public interest" in a sense which completely justifies public control. This is doubtless the most intense form which the public interest can assume. But a less intense interest, that is, interest in a non-public business, may also be sufficient. Thus in Munn v. Illinois, a statute fixing the charges for warehouses was sustained. The warehouses concerned were held to have become sufficiently "clothed with a public interest," apparently for two reasons: first, because of the general use and great importance of their service, and secondly, because they presented the case of a "virtual monopoly." A third consideration may be found, for example, in the regulation of rates for hacks and carriages, namely, a grant by the government of special privileges. So also a long standing custom of fixing prices of a certain sort may be deemed to impart a sufficient element of public interest, and to justify a continuance of the practice. It will not do to take any of these considerations in its full meaning, however. None of them will always be sufficient to justify public control. Thus the mere fact that an industry is of use and great importance is not sufficient, or our legislatures would be fixing the price of coal, ice, food, clothing, steel, and a score of other commodities, as well as rents. Nor have we any reason to believe that a "virtual monopoly" will under all circumstances subject an industry to price con-Were that so, our legislatures would possess a more powerful weapon against the Trusts than they now seem to suspect. Nor, again, can the grant of a special privilege be always sufficient—otherwise all corporate charters, at least all special charters, would imply a power in the state to fix prices for the corporation. It is not even certain that the dignity of age will always justify a continuance of legislative price making. It is more than possible that an effort to fix the price of bread, formerly a common practice, could now be successfully resisted. Thus it seems evident that no hard and fast rule can be laid down as to the potency of any of these elements to create a public interest sufficient to justify price control. All that can be said, therefore, is that the presence in an industry of one or more of these elements (and perhaps others not yet disclosed by the Court) will under certain circumstances and conditions,—to be judged of in each case by the Court—be deemed to have clothed the industry with a public interest, sufficient to subject it to public control. Thus the class of industries so subject is not a definitely determinable one, but must gradually change with the evolution of industry.¹⁸

But whatever uncertainty may attach to the control of prices in industries private in character, and however difficult it may be to define the exact grounds on which such control is based, no suspicion of uncertainty or difficulty appears in the regulation of railroad rates. The public nature of the railroad industry is a full and sufficient justification of the control. True it is that in that industry there are other features of public interest besides its public character: the elements of monopoly, of general use and importance, and of special privileges

"As said Mr. Chief Justice Waite in speaking of warehouses: "Certainly if any business can be clothed 'with a public interest and cease to be juris privati only,' this has been. It may not be made so by the operation of the Constitution of Illinois, or this statute, but it is by the facts. . . . Neither is it a matter of any moment that no precedent can be found for a statute precisely like this. It is conceded that the business is one of recent origin, that its growth has been rapid and that it is already of great importance. And it must also be conceded that it is a business in which the whole public have a direct and positive interest. It presents, therefore, a case for the application of a long-known and well established principle in social science, and this statute simply extends the law so as to meet this new development of commercial progress." Munn v. Illinois, 94 U. S. 132, 133.



from government are all present. But these additional factors simply add strength to the basis of railroad control, and do not in any sense subject it to the uncertainty which is characteristic of the control of private industries, in which these factors are the only ground of regulation. The controlling consideration in railroad control is the public character of the business. So true is this that even those who deny the potency of any argument to justify price control in private industries, do not often question the judicial doctrine of railroad regulation. Indeed, no more forceful exposition of that doctrine can be found than that given by Mr. Justice Brewer, in an opinion in which he denied the right of a legislature to fix charges for warehouses:

"The creation of all highways is a public duty. Railroads are highways. The State may build them. If an individual does the work he is *protanto* doing the work of the State. He devotes his property to a public use. The State doing the work fixes the price for the use. It does not lose the right to fix the price because an individual voluntarily undertakes to do the work." ¹⁵

It is settled law, therefore, that a state may regulate railroad rates.¹⁶ But while the courts rest this authority

"The statement that a public industry is subject to legislative control as to its prices, does not, of course, imply that the list of public industries is made up and is forever unchangeable. Here, as in the case of the peculiar class of private industries just mentioned, historical development necessarily works gradual changes. Thus we find the Supreme Court saying in San Diego Land and Town Co. v. National City: "That it was competent for the State of California to declare that the use of all water appropriated for sale, rental or distribution should be a public use and subject to public regulation and control, and that it could confer upon the proper municipal corporation power to fix the rates of compensation . . . is not disputed, and is not, we think, to be doubted." 174 U. S. 753.

15 Budd v. New York, 143 U. S. 549.

¹⁶ It has never been doubted by the courts that this power of regulation may be exercised either by the legislature, or by a commission to which the legislative power is delegated. See Tilley v. Railroad Co., 5 Fed. Rep. 641; Railroad Commission Cases 116 U. S. 307.

upon a purely legal basis—to be found in the public character of the road as a public highway, and of the company as a common carrier—it is also possible to further justify and sustain the judicial position by convincing arguments of an economic character. The monopolistic elements in the railroad industry, the nature of railroad competition, and, in general, the extensive economic, social and political significance of railroads, and hence the power of railroad managers, are considerations effective in strengthening the conviction that the courts are justified in sustaining public regulation of rates.

But what, it may be asked, is the precise significance of the term "regulate." Does it include a power to establish absolute rates, from which a railroad may be forbidden to vary, or is the power confined to merely maximum rates? This question has never been conclusively determined by the Supreme Court for the reason that it has never been directly at issue in any case. In spite of this fact, however, the answer has practically been given, for the Court, in asserting and describing the legislative power, has repeatedly used the term "maximum", or an equivalent.¹⁷ It has, therefore, all but committed itself to that view of the case. On principle, also, that would seem to be the proper view. The Fourteenth Amendment operates to impose reasonable re

"For example: "It has been customary from time immemorial for the legislature to declare what shall be reasonable compensation, or perhaps more properly speaking, to fix a maximum beyond which any charge would be unreasonable." 94 U. S. 133. "The right to establish a maximum of charge . . ." 94 U. S. 134. "The state may limit the amount of charges by railroad companies." 94 U. S. 176, and 116 U. S. 325. "The legislature of a state, having power to fix maximum rates and charges . . ." 173 U. S. 690. For other examples see 94 U. S. 125, 162, 179; 116 U. S. 330, 335; 173 U. S. 687, 694; 186 U. S. 261. No case, so far as I can discover, has ever held that rates may be absolute.



straints on the police power of the States. It does not prevent the imposition of reasonable maximum rates, nor the prohibition of rate cutting which amounts to unjust discrimination, for the high interests of the public demand that it be protected from extortionate and preferential railroad rates. But it would be hard to imagina public policy demanding a prohibition of all reduction in rates, reasonable as well as unreasonable. The repeated dicta of the Court, then, seem to find support in the merits of the question. It need hardly be added that the view of the federal Supreme Court is controlling in this matter, the question being one under the Constitution of the United States.

Thus has been established the right of the legislature to establish rates for the railroads within its jurisdiction. And as this doctrine was clearly enunciated in the first rate cases, the prime defence of the companies against public control at once broke completely down. We have now to consider the other arguments which they have brought to their aid. Two are not of much importance for our present purpose and may be briefly mentioned.

II. In some of the Granger Cases objection was raised to the laws involved, on the ground that they affected interstate commerce, and hence were void at least insofar as they applied to commerce not strictly infra-state. This objection was met by the Court with the distinct assertion that in the absence of Congressional action each state might regulate such interstate commerce as affected its own citizens. This was the law until 1886, when a divided Court overruled this feature of the Granger Cases. The rule as then announced—that the



¹⁶ Wabash, etc. Rd. Co. v. Illinois, 118 U. S. 557. It will be remembered that this case had an important influence in hastening federal legislation. The Interstate Commerce Act was passed at the next session of Congress.

states can regulate only such commerce as is purely infrastate—has since remained undoubted law.

III. In many of the earlier cases, also, the railroads sought exemption from the operation of the laws, on the ground that their charters exempted them from public control of their rates; but the answer of the Court brought them small comfort. In this matter the Court simply applied the old rule regarding grants-particularly grants of immunity—by the state. In no case, said the Court, is it to be presumed that a charter confers exemption from legislative control. The presumption is all the other way, and to overcome it requires a clear indication of legislative intent. Thus even a clause in the charter conferring upon the company the right to fix its rates does not excuse the road from the rates made by the state. It is excused only if the charter, in addition to granting that power, contains expressly or by clear implication, a renunciation by the state of its right of regulation. Under such a doctrine, of course, no railroad incorporated under general laws, and almost none incorporated by special act could claim exemption from public control.19

A matter of some interest is suggested by the Court's assertion that immunity from rate control may be given in a railroad charter. It has always been said that the fixing of the rates is an exercise of the police power. Yet it is a well settled doctrine of the police power that a state cannot dispossess itself of that power,—cannot contract it away. It would seem, therefore, that rate regulation is not in reality a phase of the police power, but that it stands on a different basis. What that basis may be, is indicated by a further distinction which may be drawn between rate control and the ordinary forms of



¹⁹ See Ruggles v. Illinois, 108 U. S. 541, and Stone v. Farmers' Loan and Trust Co., 116 U. S. 307.

police regulation. In general the police power is employed to control matters of private concern for the general good, but rate regulation is used to control matters of public concern. Is not the public character of the railroad business alone sufficient to justify public regulation? But whatever interest may attach to speculations of this character, there is no doubt that at present the courts declare the police power to be the basis of rate control.

IV. We come now to the fourth defence of the railroad companies, and the one with which the remainder of our work will be concerned. The railroads have contended that rates ought to be reasonable, by whomsoever made; that what is reasonable is a judicial question; and that therefore the courts are competent to review legislative rates in order to determine their reasonableness. Into the varying replies which the Supreme Court has made to this contention it is now our purpose to inquire.

CHAPTER II.

THE DOCTRINE OF JUDICIAL REVIEW .-- I.

The argument that rates established by public authority should be subject to the scrutiny of the courts in order that their reasonableness may be judicially determined was advanced and urged with much force in the Granger Cases—the first cases involving the validity of railroad control. It was therefore necessary for the Supreme Court to consider the question and to pronounce upon it. It did so, and in its expressions upon the point there appears no lack of definite conviction. The power of the legislature was held to be complete and exclusive, subject to no restraint from the courts. The force with which this doctrine was enunciated may be indicated by quotations from the opinions of the Court, read by Mr. Chief Justice Waite. In the Munn case are found these words:

"It is insisted, however, that the owner of property is entitled to a reasonable compensation for its use, even though it be clothed with a public interest, and what is reasonable is a judicial and not a legislative question. As has already been shown, the practice has been otherwise. . . . We know that this is a power which may be abused; but that is no argument against its existence. For protection against abuses by legislators, the people must resort to the polls, not to the courts." And again: "Of the propriety of legislative interference within the scope of the legislative power, the legislature is the exclusive judge." ²

In the Peik case, counsel for the railroad argued that "the question of what is reasonable compensation is for

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¹94 U. S. 133, 134.

²94 U. S. 132.

judicial determination and cannot be decided by the legislature." The reply of the Chief Justice to this contention was perfectly clear. He said: "As to the claim that the courts must decide what is reasonable, and not the legislature. This is not new to this case. It has been fully considered in Munn v. Illinois. Where property has been clothed with a public interest, the legislature may fix a limit to that which shall in law be reasonable for its use. This limit binds the courts, as well as the people. If it has been improperly fixed, the legislature, not the courts, must be appealed to for the change."

Again, in the Ackley case the only matter which received mention in the opinion of the court was the question whether the railroad company could "recover for the transportation of property more than the maximum fixed by the Act of 1874, by showing that the amount charged was no more than a reasonable compensation for the services rendered." The question was answered by a decided negative. "The limit of recovery," said the court, "is that prescribed by the statute." ⁵

It can be no misinterpretation of language here quoted to say that it indicated a deliberate judgment and a clear conviction on the part of the Court, as to the question discussed. However much that matter may have been overshadowed by the major question in the cases, it received attention at the hands of the Court, and was settled in no doubtful terms. When the Granger Cases had been decided, therefore, the law was that the reasonableness of rates is a purely legislative question, that neither the Common Law nor the Federal Constitution permits the railroads to seek relief in a judicial review of rates made by the legislature.

⁹⁴ U. S. 167.

⁹⁴ U. S. 178.

⁹⁴ U. S. 179.

For a period of nine years this rule was sustained without modification and guided the judiciary in its treatment of railroad cases. An illustration of its application may be seen in the case of Tilley v. Savannah, etc. R. Co.,6 decided in 1881. This case involved the power of the Georgia Railroad Commission to act under a statute authorizing it to fix railroad rates. Mr. Justice Woods, of the Supreme Court, who was then sitting on circuit. held that there was only one conclusive test of the reasonableness of rates-for the railroad to try them-and that its only remedy, should the commission's rates prove unreasonable, was to apply to that board or to the legislature. "My conclusion is," he continued, "that the Act of the Legislature of Georgia is not in violation of either the Constitution of the United States or of the state of Georgia . . . that it (the Legislature) may prescribe rates, either directly, or through the intervention of a commission, and that the question whether the rates prescribed by the legislature, either directly or indirectly, are just and reasonable, is a question which the Legislature may determine for itself." 7

After nine years of unqualified acceptance, however, a modification of this rule was introduced in the opinion of the Court, read by Mr. Chief Justice Waite, in the Railroad Commission Cases, which were suits in equity brought to restrain the Mississippi Railroad Commission from establishing rates, on the ground that the charters of the companies exempted them from public control of their charges. In determining that the charters afforded no such exemption the court reaffirmed the right of the



⁶5 Fed. 641.

^{&#}x27;5 Fed. 664. See Ruggles v. Illinois, 108 U. S. 526, and concurring opinion of Mr. Justice Field on p. 541; also Spring Valley Water Works v. Schottler, 110 U. S. 347.

^a Stone v. Farmers' Loan and Trust Co. and two other cases, (1886) 116 U. S. 307, 347, 352.

legislature to regulate railroads, but in the midst of the opinion are found these significant words:

"From what has thus been said it is not to be inferred that this form of limitation or regulation is itself without limit. This power to regulate is not a power to destroy, and limitation is not the equivalent of confiscation. Under pretence of regulating fares and freight, the State cannot require a railroad corporation to carry persons or property without reward; neither can it do that which in law amounts to a taking of private property for public use without just compensation or without due process of law."

Continuing, the Chief Justice said: "What would have this effect we need not now say, because no tariff has yet been fixed by the Commission, and the statute of Mississippi expressly provides 'that in all trials of cases brought for a violation of any tariff of charges so fixed by the commission it may be shown in defence that such tariff so fixed is unjust."

Thus the suggested modification remained, in this case, merely an obiter dictum, but its importance lay in the fact that it was the first hint in any prevailing opinion of the court that the legislative power of control was subject to limitations other than those which might be imposed through popular suffrage. The dictum did not go so far as to describe the nature and extent of those limitations, nor to state through what agencies they could be enforced. It was simply a declaration in general terms that the railroads possessed rights of property which were secure even from the legislative power of regulation.

Three years later Mr. Justice Gray, in his opinion in a rate case, remarked that "the general rule of law that governs this case has been clearly stated and developed in opinions of this Court delivered by the late Chief Justice." The fact is, however, that at that time the



¹¹⁶ U. S. 331.

²⁶ Dow v. Beidelman, 125 U. S. 680, 686.

Court was anything but clear upon the subject. For a period of five years after the Railroad Commission Cases the law was in a very unsettled condition, and for this the dictum of Mr. Chief Justice Waite was wholly responsible. It is idle to speculate as to what effect he would have given to his words had he been spared to share in the trial of later cases. His death left their full meaning undetermined, and until 1890 no authoritative decision was reached. During that time his colleagues on the Supreme bench and other jurists as well speculated upon his dictum, in attempts to discover its proper implications and applications, but without complete definiteness or harmony of conclusion.

Thus, in the opinion of the Court in Dow v. Beidelman, a case in which the railroad claimed that the passenger rates fixed by an Arkansas statute would reduce its net yearly income to less than 1½% on the "original cost of the road," and to only a little more than 2% on its bonded debt, Mr. Justice Gray cited several cases, quoting Chief Justice Waite's dictum, but after showing that the railroad had offered no evidence as to the cost of its bonds or the sum paid for its road, continued as follows:—

"Without any proof of the sum invested by the reorganized corporation or its trustees, the court has no means, if it would under any circumstances have the power, of determining that the rate fixed by the legislature is unreasonable. Still less does it appear that there has been any such confiscation as amounts to a taking of property without due process of law." 11

In this case, then, it is evident that the Court was not free from doubt as to its power to test the reasonableness of rates. A more positive statement appeared in the opinion of the Court, read by Mr. Justice Field, only a few months later in the Georgia Railroad and Banking Co. v. Smith. After quoting from the Railroad Com-

¹¹ 125 U. S. 680, 690. The italics are mine.

mission Cases and *Dow v. Beidelman*, the learned Justice remarked:

"It has been adjudged by this court that the legislature of a state has the power to prescribe the charges of a railroad company for the carriage of persons and merchandise within its limits, in the absence of any provision in the charter of the company constituting a contract vesting in it authority over those matters, subject to the limitation that the carriage is not without reward, or upon conditions amounting to the taking of property for public use without just compensation; and that what is done does not amount to a regulation of foreign or interstate commerce." 12

But as the only contention in this case was exemption by reason of charter provisions, no application was made of the dictum as to carriage "without reward or upon conditions amounting to the taking of private property for public use without just compensation."

The precise question, however, was directly involved in a suit which came before Mr. Justice Brewer, then a circuit judge, in 1888, after the Arkansas case, but before the Georgia case had been passed upon by the Supreme Court. Taking up the dictum of Chief Justice Waite and Justice Gray's holding in Dow v. Beidelman, the now eminent jurist interpreted them as establishing in a most thorough way the power of the courts to interfere in matters of railroad rates. The action ¹⁸ was for an injunction to restrain the Railroad Commission of Iowa from enforcing rates made under the authority of an Act of 1887. In his opinion Judge Brewer quoted from the opinions in the Railroad Commission and Dow cases, and then proceeded:

"It is obvious from these last quotations that the mere fact that the legislature has pursued the forms of law in



¹²⁸ U. S. 174, 179.

¹³ Chicago and Northwestern R. Co. v. Dey, 35 Fed. Rep. 866.

prescribing a schedule of rates does not prevent inquiry by the courts, and the question is open and must be decided in each case, whether the rates prescribed are within the limits of the legislative power, or mere proceedings which, in the end, if not restrained, will work a confiscation of the property of complainant. Of course some rule must exist, fixed and definite, to control the action of the courts, for it cannot be that a chancellor is at liberty to substitute his discretion as to the reasonableness of rates for that of the legislature. . . . The right of judicial interference exists only when the schedule of rates established will fail to secure to the owners of the property some compensation or income from their investment. As to the amount of such compensation, if some compensation or reward is in fact secured, the legislature is the sole judge. The question is one alone of policy. . . . The rule, therefore, to be laid down, is this: That where the proposed rates will give some compensation, however small, to the owners of railroad property, the courts have Appeal must then be made to no power to interfere. the legislature and the people." 14

Here is a clear enunciation of the doctrine of judicial review from a lower court, and, what is more important, its practical application through the granting of an injunction against a railroad commission. In another case, also, 15 which he decided the same day, Judge Brewer issued an injunction restraining the Minnesota Commission from enforcing a certain switching charge, which the railroad claimed would prove unremunerative. These two cases could leave no doubt that in Judge Brewer's mind unremunerative rates were unreasonable, and unreasonable rates it was competent for the judiciary to suspend.

Some months later 16 the Supreme Court of Florida

[&]quot; 35 Fed. Rep. 878, 879.

³⁵ Chicago, St. Paul, Minneapolis and Omaha R. Co. v. Becker, 35 Fed. Rep. 883.

¹⁶ Pensacola, etc. R. Co. v. Florida, 25 Fla. 310.

had under consideration rates made by the state commission, which the railroad claimed and the commission admitted would not allow the road to pay its operating expenses. Reviewing the Railroad Commission, Dow, Georgia and Dey cases, with thorough approval of Judge Brewer's opinion in the last named case, the court declared that the enforcement of unremunerative rates is a wrong, for which there is no remedy but in the courts. Accordingly it adjudged the contested rates to be an attempt to take property without just compensation and without due process of law.

From this brief review of the suits which followed the Railroad Commission Cases, it is evident that in a very few years the Supreme Court had placed a broad interpretation upon Chief Justice Waite's dictum, while some of the lower courts had gone so far as to announce a definite theory of judicial control. The question had not been authoritatively determined by the Supreme Court because it had not been squarely presented, but such had been the tendency of judicial opinion since 1885, that one could have foretold the nature of Court's decision when a clear case arose. It was but a matter of time before the period of uncertainty would be ended by a definite recantation by the Court of the conviction so clearly expressed in the Granger Cases.

It was in 1890 that the test came. The case, the Chicago, Milwaukee and St. Paul R. Co. v. Minnesota, ¹⁷ originated in 1887, in a complaint made to the Minnesota Commission alleging the unreasonable character of certain milk rates charged by the railroad. The complaint was forwarded to the railroad and a date fixed for an examination. Upon that date both the railroad and the complainants appeared by attorney, and the Commission

^{17 134} U. S. 418.

"proceeded to investigate the complaint." Some weeks later the Commission served its decision upon the railroad with an order fixing new and lower rates. Upon the refusal of the railroad to put them in force, the Commission applied to the Supreme Court of the State 18 for a writ of mandamus to compel the adoption of the rates. On the hearing the railroad asked for a reference to take testimony regarding the reasonableness of the Commission's rates, but this application was denied upon the ground that the statute declared the Commission's rates to be conclusively reasonable, and, as decided in the Granger Cases, this legislative determination was binding upon the courts. The court, therefore, granted a peremptory writ of mandamus. The railroad company, however, sued out a writ of error to the Supreme Court of the United States, asserting its right to contest the reasonableness of the Commission's rates, under the Fourteenth Amendment to the Federal Constitution. The case was decided March 24, 1890, the opinion of the majority of the Court being read by Mr. Justice Blatchford.

In his opinion the learned jurist reviewed the facts of the case, and the decision of the Supreme Court of Minnesota, then discussed the question as to whether the railroad's charter exempted it from legislative control, and having decided that question in the negative, announced the important point to be whether the form of regulation adopted in this case was valid.

Launching into the discussion of this subject, he asserted the necessity of adopting the construction placed upon the Minnesota statute by the state court—that the Legislature intended the Commission's rates to be conclusively reasonable. Upon such a construction he declared the statute to be clearly invalid:

^{18 38} Minn. 281.

"It conflicts with the Constitution of the United States in the particulars complained of by the railroad company. It deprives the company of its right to a judicial investigation, by due process of law, under the forms and with the machinery provided by the wisdom of successive ages for the investigation judicially of the truth of a matter in controversy, and substitutes therefor, as an absolute finality, the action of a railroad commission which, in view of the powers conceded to it by the state court, cannot be regarded as clothed with judicial functions, or possessing the machinery of a court of justice."

Under the statute, said the Court, the Commission had but to "find" a railroad's rates unreasonable, adopt

others, and notify the company of the fact.

"No hearing is provided for; no summons or notice to the company before the commission has found what it is to find, and declared what it is to declare; no opportunity is provided for the company to introduce witnesses before the commission,—in fact, nothing which has the semblance of due process of law; and, although in the present case, it appears that, prior to the decision of the Commission, the company appeared before it by its agent, and the commission investigated the rates charged by the company for transporting milk, yet it does not appear what the character of the investigation was, or how the result was arrived at." ¹⁹

Continuing, Mr. Justice Blatchford called attention to another provision of the statute, requiring all railroad rates to be equal and reasonable. Nevertheless, although here the railroad alleged that the Commission's rates were not equal and reasonable, the statute did not permit them to show that fact in judicial proceedings. This restraint was clearly wrong: "The question of the reasonableness of a rate of charge for transportation by a railroad company, involving, as it does, the element of reasonableness both as regards the company and as regards the public, is eminently a question for judicial investiga-

initial (meter and trains)

[&]quot; 134 U. S. 456, 457.

tion, requiring due process of law for its determination. If the company is deprived of the power of charging rates for the use of its property, and such deprivation takes place in the absence of an investigation by judicial machinery, it is deprived of the lawful use of its property, and thus, in substance and effect, of the property itself, without due process of law, and in violation of the Constitution of the United States, and in so far as it is thus deprived, while other persons are permitted to receive reasonable profits upon their invested capital, the company is described of the agreed protection of the 12 "" is deprived of the equal protection of the laws."20

From this argument the conclusion emerged that the issuing of a peremptory writ of mandamus by the state court was unlawful, because in violation of the Constitution of the United States. In its judgment, therefore, the Court remanded the case for further proceedings not inconsistent with its opinion, remarking, however, that unless the state court changed its construction of the statute so as to permit of judicial review of the rates, the only possible proceeding was to dismiss the application for the mandamus.21

The opinion of Mr. Justice Blatchford in this case has been described at length and many passages have been

*134 U. S. 458. With this compare the following from the dissenting opinion of Mr. Justice Bradley: "No one questions the constitutionality or propriety of boards for assessing property for taxation, or for improvement of streets, sewers, and the like, or of commissions to establish county seats, and for doing many other things appertaining to the administrative management of public affairs. Due process of law does not always require a court. It merely requires such tribunals and proceedings as are proper to the subject in hand." 134 U. S. 464.

²¹ On the same day the Supreme Court, through Mr. Justice Blatchford, handed down its opinion in the case of the Minneapolis Eastern R. Co. v. Minnesota, 134 U. S. 467. The Minnesota Commission had fixed a switching charge which the railroad refused to adopt. The Commission secured an alternative writ of mandamus, and in its reply the railroad asserted that the rate was unreasonable and would

freely quoted for several reasons. In the first place, because of the great importance of the case. It marks the turning point in American railroad law; it indicates the definite adoption by the Supreme Court of a policy fraught with tremendous consequences both to the railroads and to the people. In the second place, because the reasoning of the Court does not repose on its former decisions or opinions. In all that part of his opinion which deals with the question under discussion, Mr. Justice Blatchford cites no case or other authority except the obiter dictum in the Railroad Commission Cases. His doctrine was new law, freshly made out of whole cloth.

But still another reason for the extended discussion of his opinion is that it is not entirely easy to understand its reasoning. It must be confessed that the discussion is somewhat confused, and it is therefore difficult to satisfactorily digest its substance. The following, however, is believed to be a practically faithful statement of the doctrine of judicial review as it presented itself in this case:

Although railroad companies are quasi-public in character they are entitled to the protection of the Fourteenth Amendment. Therefore,

1. They cannot be deprived of property without due process of law. But since rates imposed by the state may deprive them of the lawful use of their property, and hence, in substance and effect, of the property itself, such rates must be enforced only after an investigation by judicial machinery, that is, after due process of law has been observed.²²

deprive it of property without due process of law. Its request to make proof of these matters was, however, refused and a peremptory writ of mandamus issued. Upon its reasoning in the other case, and especially because no notice to the railroad or hearing had been granted before the charge had been fixed, the Federal Supreme Court reversed the judgment of the State Court.

The statute in this case, however, did not provide nor require due process of law, nor did it appear that the commission employed it in fixing the rate.

2. They cannot be denied the equal protection of the laws. But if they are deprived of the lawful use of their property with due process of 1aw, while other persons are not, they are denied the equal protection of the laws.²⁸

This, then, is the doctrine of judicial review as it appeared when first authoritatively announced in 1890. It will at once be seen, however, that in this form, it was in but a crude and rudimentary state, and much litigation was needed to develop and refine it. As pronounced by Mr. Justice Blatchford, many questions of importance were left unsettled, and it is to the later decisions of the court that we must look for answers to these questions. The next two chapters will therefore be devoted to a study of the evolution of the doctrine up to the present time.

It remains now merely to remark that although the doctrine of this case was far from complete, the result of the case was clear and definite. The Court had executed a right-about-face. Mr. Chief Justice Waite's repeated assertion in the Granger Cases, that the judgment of the legislature binds the courts as well as the people was distinctly renounced. So far as those cases dealt with the relation of the courts to the legislature they were definitely overruled. The doctrine of judicial review was born.

Only three of the justices who decided the Granger Cases were on the bench when this Minnesota case was considered. Of these, Mr. Justice Field had dissented in the former cases and naturally agreed with the majority in their holding. But Mr. Justice Bradley delivered a vigorous dissent, asserting that the majority had practically overruled *Munn v. Illinois*; claiming that reasonableness is a legislative and not a judicial question; and deploring "an assumption of authority on the part of

²⁶ Such might have been the effect of the statute in this case.

the judiciary, which, it seems to me, with all due deference to the judgment of my brethren, it has no right to make."²⁴ In this dissenting opinion Mr. Justice Gray and Mr. Justice Lamar concurred.

The third surviving member of the Granger Court was Mr. Justice Miller, who concurred "with some hesitation" in the judgment of the Court. His brief opinion consisted of a series of propositions, which, in his judgment, embodied the rules of law applicable to such cases. It may be said that his views were largely adopted in subsequent decisions of the Court.

²⁴ 134 U. S. 462.

CHAPTER III.

The Doctrine of Judicial Review.—II.

We are now to consider the evolution of the doctrine of judicial review, from its crude condition in the Minnesota Case to the well-developed and somewhat complex form which it presents to-day. In pursuing this study, constant reference must be made to the important cases decided since 1890, and it therefore seems advisable to delay our analysis of the subject long enough to take a hasty view of those cases.

The first case upon our subject to come before the federal Supreme Court, after the Minnesota case, was the Chicago and Grand Trunk R. Co. v. Wellman, which involved a Michigan statute fixing maximum charges. Finding that the evidence was insufficient to prove the rates unreasonable, the Court sustained the statute. On the same day on which this was decided, Mr. Justice Blatchford read the opinion of the majority of the Court in the curious case of Budd v. New York.2 This was an action brought to test the constitutionality of a New York statute fixing rates of charge for warehouses, and as this was precisely the question involved in Munn v. Illinois, the case is of special interest. The opinion was definite in its conclusion—the statute was sustained—but for uncertainty of argument it would be hard to find its equal in all the books of law. At one point it states that "we must regard the principle maintained in Munn v.

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¹1892. 143 U. S. 339. To be referred to hereafter as the Wellman case

² 134 U. S. 517. To be referred to hereafter as the Budd case.

Illinois as firmly established, and we think it covers the present case." At another point it attempts to distinguish the Minnesota case, by asserting that the opinion there had reference only to charges fixed by a commission and was not concerned with rates fixed by a legislature. Then, as if fearing that this might imply a total lack of judicial control over legislative rates, it resorts to the hopeless uncertainty of Dow v. Beidelmann, and quotes the dubious clause, "if it (the Court) would under any circumstances have the power" of determining a legislative rate to be unreasonable. Under cover of this makeshift doctrine, the opinion goes on to show that the complaint in this case alleged no unreasonableness in the rates, and then repeats the words: "even if under any circumstances we could determine that the maximum rate fixed by the legislature was unreasonable."

It is, of course, hard to construe such an opinion as this, but a fair inference would seem to be that at this time there was some doubt in the mind of Mr. Justice Blatchford, if not in the minds of other members of the Court, as to whether the doctrine of judicial review should be extended to rates made directly by a legislature. That there was no such doubt, however, as to most of the justices, is evident from the fact that Mr. Justice Brewer's opinion in the Wellman case, read on the same day, and to which no dissent was offered, clearly asserted the right of the courts to review legislative rates. "The legislature," he said, "has power to fix rates and the limit of judicial interference is protection against unreasonable rates."

Two years later the same jurist laid to rest as gracefully as was possible, any doubt that may have been raised by the Budd Case by saying that because the records in that case had not shown the rates to be un-

¹⁴³ U. S. 344.

reasonable, "there was no occasion for saying anything as to the power or duty of the Court in case the rates as established had been found to be unreasonable."

In the Reagan cases the doctrine of judicial review was reaffirmed and much elaborated. These important cases,⁵ decided in 1894, all involved rates made by the Texas Railroad Commission. Injunctions to restrain the Commission from enforcing the railroads from operating the rates, had been sought in the Circuit Court and had been granted. Indeed so sweeping was the decree of that court that the Commission was forbidden to establish any rates whatever. This last feature of the decree was reversed by the Supreme Court, but so far as the decree restrained the enforcement of the rates already established, it was affirmed, the court finding, after investigation, that the rates were unreasonable.

On March 4, 1895, three suits were decided by the Supreme Court, speaking through Mr. Justice Shiras. The leading case was St. Louis and San Francisco Ry. Co. v. Gill 6 and the others 7 were settled upon the principles therein declared. It is interesting to note that these cases involved the same statute as Dow v. Beidelman—the Arkansas Maximum Passenger Rate Act of 1887. There was no longer, however, the uncertainty which characterized the utterances of the Court in that case. The right of the courts to test the reasonableness of legislative rates was clearly declared, although, because the evidence had not shown their unreasonableness, the rates were sustained.

⁴Reagan v. Farmers' Loan and Trust Co. 154 U. S. 398.

⁶ Reagan v. Farmers' Loan and Trust Co., and four other cases, 154 U.S. 362, 413, 418, 420.

⁶ 156 U. S. 649. To be referred to hereafter as the Gill case.

^{&#}x27;St. L. & San F. Ry. Co. v. Stevenson, and same v. Trimble, 156 U. S. 667.

In 1896, in the case of the Covington and Lexington Turnpike Co. v. Sandford, the Supreme Court elaborated the doctrine still further and employed it to restrain the enforcement of rates made by the Legislature of Kentucky for the turnpike company. And on March 7, 1898, was delivered the opinion of the Court in the great case of Smyth v. Ames, which had been brought to contest the validity of the Nebraska Maximum Rate Law of 1893. The Supreme Court affirmed the decree of Mr. Justice Brewer in the Circuit Court, restraining the enforcement of the rates. The opinion of the Court, prepared by Mr. Justice Harlan, worked out our doctrine in great detail.

A variation on the usual form of question presented to the Court appeared in the Lake Shore, etc. R. Co. v. Smith, 10 in which was involved a Michigan statute requiring railroads to sell mileage books and fixing the price therefor. Although there was strong dissent, and although the reasoning of Mr. Justice Peckham's prevailing opinion is not at all clear, there can be no doubt that in the opinion of the majority the statute was "a violation of that part of the Constitution of the United States which forbids the taking of property without due process of law." It was therefore declared to be invalid.

Another variation of the question presented itself in San Diego Land and Town Co. v. National City, 11 which involved the power of certain local officers to fix water rates under the California Act of March 7, 1881. In

¹⁶⁴ U. S. 578.

⁶ 169 U. S. 466; see also 171 U. S. 361. To be referred to hereafter as the Smyth case.

³⁰ 1899. 173 U. S. 684. To be referred to hereafter as the Lake Shore case.

 $^{^{11}}$ 1899. 174 U. S. 739. To be referred to hereafter as the San Diego case.

1884, in the Spring Valley Water Works v. Schottler,¹² the Supreme Court, in pursuance of the principles of the Granger Case, had held that such regulations of water rates was a proper exercise of legislative power, and was not subject to judicial review. But in the San Diego case this view was abandoned. Citing the Wellman, Reagan, and Smyth cases, the Court asserted its right to test the reasonableness of the rates under the Federal Constitution. The rates were, however, upheld as valid.

The Chicago, Milwaukee and St. Paul R. Co. v. Tompkins 18 arose from a suit by the railroad to restrain the enforcement of a schedule made by the South Dakota Commission. The decree of the trial court was in favor of dismissing the bill and vacating the injunction, but, on appeal of the railroad, all proceedings were stayed in the lower court. The Supreme Court held that the decision of the trial court was based on an inadequate finding of fact, the cost of local business not having been determined, and it therefore reversed the decree and remanded the case to the lower tribunal with instructions to appoint a master to fully find the facts and then to proceed as equity might require. In pursuance of this decree the Circuit Court found the rates to be unreasonable and perpetually enjoined their enforcement. 14

In McChord v. Louisville and Nashville R. Co., ¹⁵ the railroad applied for an injunction to restrain the Kentucky Commission from fixing any rates whatever, on the ground of threatened multiplicity of suits and irreparable injury. The court, however, maintained the right of a commission to establish rates, stating that an

¹² 110 U. S. 347. Supra, p. 27, footnote.

¹³ 1900. 176 U. S. 167. To be referred to hereafter as the Tompkins case.

¹⁴ Chicago, Milwaukee and St. Paul R. Co. v. Smith, 110 Fed. Rep. 473.

¹⁵ 183 U. S. 483.

injunction could be granted only when, after their establishment, they could be shown to be unreasonable.

A novel question was presented by the Louisville and Nashville Railroad v. Kentucky, decided in 1903.16 question involved was the power of the courts to review action taken by the Railroad Commission in pursuance of a statute authorizing it to exempt railroads from time to time from the operation of the "Long and Short Haul Clause." The railroad relied on the cases just reviewed, but the Supreme Court held that they applied only to rate-making, that in such a case as this no such matter was involved, and that the action of a commission was therefore final. It is difficult to perceive why a discretionary power to compel obedience to a Short Haul Clause is not one feature of the power of rate-making. Certainly through it the earnings of a company can be profoundly influenced. In this particular, however, the Supreme Court refused to extend the doctrine of judicial review.

The last Supreme Court case upon this subject is the *Minneapolis and St. Louis R. Co. v. Minnesota*, also decided in 1902,¹⁷ in which was sustained a coal rate imposed by the State Commission.

Many other applications of the doctrine of judicial review may be found in the lower courts. A few only can be mentioned here. In the Cleveland Gaslight and Coke Co. v. Cleveland, 18 Mr. Justice Jackson, then a circuit judge, cited the Minnesota case as authority for granting an injunction to restrain the enforcement of a city ordinance fixing the price of gas. In 1894 Mr. Justice Brewer and Judge Dundy decided the case of Ames v. Union P. R. Co. 19 adversely to the Nebraska Maxi-

^{16 183} U. S. 503.

¹⁷ 186 U. S. 257. To be referred to hereafter as the Minneapolis and St. Louis case.

^{1891. 71} Fed. Rep. 110.

^{29 64} Fed. Rep. 165.

mum Rate Law, its decree being affirmed by the Supreme Court in Smyth v. Ames. About a year later District Judge Clark enjoined the enforcement of gas rates fixed by the city of Memphis, citing as authority the Minnesota and Reagan cases.²⁰

In the same year ²¹ Judge Wellborn, of the United States District Court asserted the right of the courts to review rates fixed by the Secretary of War, under provisions of an Act of Congress, for a railroad which had been incorporated and aided by the United States, although he declared the rates in controversy valid, inasmuch as no showing was made to the contrary.²² And a few months later Mr. Justice McKenna, then Circuit Judge, restrained the enforcement of rates made by the California Commission.²⁸

In these, and other cases, has the doctrine of judicial review been elaborated and authoritatively pronounced. With this cursory glance at the leading cases on the subject, we may now proceed to inquire their effect upon that doctrine.

No one can read the opinion of Mr. Justice Blatchford in the Minnesota case without being impressed by the emphasis there laid on the phrase "due process of law." Evidently he was profoundly impressed by the absence of provisions in the statute requiring formal procedure by the commission in the investigation and decision of rate cases. And no less was he impressed by the absence of evidence, upon the record, tending to show that the commission had actually employed those forms which have been "provided by the wisdom of successive ages

New Memphis Gas and Light Co. v. Memphis, 72 Fed. Rep. 952.

и 1806.

²⁶ Atlantic and Pacific Rd, Co. v. U. S. 76 Fed. Rep. 186.

²⁶ Southern Pacific R. Co. v. Railroad Commissioners, 78 Fed. Rep. 236.

for the investigation judicially of the truth of a matter in controversy." "No hearing is provided for"; he complains of the statute, "no summons or notice to the company; . . . no opportunity provided for the company to introduce witnesses before the commission,—in fact, nothing which has the semblance of due process of law; and, although," he continues, "in the present case it appears that, prior to the decision of the commission, the company appeared before it by its agent, and the commission investigated the rates charged by the company for transporting milk, yet it does not appear what the character of the investigation was, or how the result was arrived at."²⁴

On this point the suit of the Minneapolis Eastern Railway Co., decided on the same day, presented even a clearer case. Says Mr. Justice Blatchford, in his opinion in that case: "the commission states that it made its findings after due and careful inquiry and consideration; but it does not appear that the Minneapolis Eastern Railway Company had any prior notice of any hearing at which such finding was made, or any opportunity of being heard in regard thereto, while it does appear that it asked leave of the court to make proof of the matters set up in its return; and that its request was denied." 25

The emphasis which is thus strongly laid in both cases upon the absence of formal procedure in the work of the commission might well justify the inference that it was because of this lack that the statute was found to be repugnant to the Constitution. It provided for no notice, or hearing, or opportunity to present evidence, in short, for none of the features of the procedure of courts:—the commission had but to "find" whatever it might

¹⁴ 134 U. S. 456, 457.

[&]quot; 134 U. S. 482.

choose to find. For that reason due process of law was denied to the railroads, in proceedings which might result in depriving them of property, and insofar as railroads were subjected to such treatment while other persons were not, they were denied the equal protection of the law. Such an interpretation of the cases seems not unfair, and might well prompt the conclusion that if statutes should require, and a commission employ, all of the forms of law, the rates made by the commission would be secure against judicial interference; that the most which the courts could do, should the rulings of the commission be appealed to them, would be to determine whether the necessary formalities had been observed. The rates might be absurdly low, but if the forms of law had been followed in their establishment, they could not be disturbed by the courts. We have, then, to consider whether this view is a fair inference from all the adjudications of the Court.

It must be said, in the first place, that although the question of procedure was the dominant consideration in these opinions of Mr. Justice Blatchford, there was one other idea, advanced in the Minnesota case, not wholly consistent with the inference suggested above. It will be remembered ²⁶ that the learned justice contended that "the question of the reasonableness of a rate of charge for transportation by a railroad company . . . is eminently a question for *judicial* investigation." From this might possibly be drawn the conclusion that the reasonableness of rates is by nature a question for the *courts* to determine, and in which they cannot be bound by the decision of an administrative or, at most, *quasi*-judicial body. This is evidently the view which Mr. Justice Bradley attributes to the majority of his brethren. In

³⁰ Supra, p. 34.

his dissenting opinion he says: "It is urged that what is a reasonable charge is a judicial question. On the contrary it is preëminently a legislative one, involving considerations of policy as well as of remuneration. . . . This is just where I differ from the majority of the court. They say in effect, if not in terms, that the final tribunal of arbitrament is the judiciary; I say it is the legislature."²⁷

Under such an interpretation of Mr. Justice Blatchford's language this phase of the doctrine of judicial review as announced in the Minnesota case, would present itself somewhat as follows:—

Rates made by the legislature or by a commission may be carried to the courts for two purposes, (1) to determine whether that due process of law commanded by the Fourteenth Amendment, has been observed in their formulation; (2) to secure a determination by the courts of their reasonableness, it being within the province of the courts, irrespective of the Constitution, to decide such questions.

In this form, the doctrine of judicial review would effectively preclude the idea that simply because a commission follows the forms of judicial procedure, its rates are exempt from judicial scrutiny and control. But it must be admitted that the doctrine as authoritatively enunciated by the Supreme Court has not taken this form. The theory of the inherently judicial character of the question of reasonableness has never been adopted by that court. Aside from the sentence already quoted from Mr. Justice Blatchford's opinion, in only one instance has any member of the supreme bench asserted that theory. In the Reagan cases Mr. Justice Brewer spoke as follows:—

^{# 134} U. S. 462.

"It has always been recognized that, if a carrier attempted to charge an unreasonable sum, the courts had jurisdiction to inquire into that matter. . . . The province of the courts is not changed, nor the limit of judicial inquiry altered, because the legislature, instead of the carrier, prescribes the rates."

Giving full weight to these dicta of Justices Blatchford and Brewer, it may nevertheless be safely said that their view as to the inherent competence of the courts in rate cases, irrespective of constitutional provisions, has not been adopted by the Court. It is at least certain that the Court has not felt that it could safely repose its authority upon the basis of the theory, and has sought for a firmer foundation. And indeed it must be admitted that the theory cannot command acceptance. It can hardly be maintained in the face of the historical fact that until very recent years it was never supposed that the judiciary could control the legislature in its regulation of quasipublic property. "As has been shown," said Mr. Chief Justice Waite in Munn v. Illinois, 28 "the practice has been otherwise." Rate-making is historically a legislative function, and there is much reason to agree with Mr. Justice Bradley that what is a reasonable charge is preeminently a legislative question, "involving considerations of policy as well as of remuneration."29 Moreover. it is far from conclusive to say that because the courts could restrain unreasonable rates made by a carrier to whom the legislature had permitted the privilege of making their own rates, they can also restrain rates when made by the legislature itself in pursuance of its undoubted power and in fulfillment of its duty to the people. The courts may control private citizens, especially in their enjoyment of a public privilege, where they may not control a co-ordinate branch of the government.

²⁰94 U. S. 133.

[&]quot; 134 U. S. 462.

But whatever the considerations may be to which the Supreme Court has given weight, it is certain that it has never insisted upon the theory in question, and has not been content to rely upon it in working out the doctrine of judicial review. So solitary are the two utterances of Justices Blatchford and Brewer, and so entirely different is the basis upon which the Court has finally reposed, that it may be safely said that the theory of the judicial character of the question of reasonableness forms no part of the doctrine of judicial review.

This being true, the question recurs: Is a court limited in a rate case to an investigation of the procedure employed by the commission, and must it sustain rates, however low, if it finds that they have been established as a result of those formal proceedings which are contemplated by the phrase "due process of law?" Evidently this is not so. For the slightest study of rate cases reveals the fact that in almost every instance the investigation of the court has been directed not at the procedure of the commission, but at the reasonableness of the rates. The question then arises as to the theory upon which the courts base this broader authority. If, as we have just seen, they are not prepared to insist that reasonableness of rates is in its nature a judicial question, why may they nevertheless determine that question?

The answer to this query is to be found in a broader interpretation of the phrase "due process of law." To Justice Blatchford those words apparently suggested no more than the forms of judicial procedure. In other cases, however, they have been recognized as including the further idea of "just compensation." No state shall deprive a person of property without due process of law, but should a state, in taking private property, employ all the judicial procedure and machinery known to man, yet fail to return just compensation for that property, it

would not have used "due process of law." Just compensation, then, is an essential element in due process of law, and under the Fourteenth Amendment, therefore, the question is open for determination by the courts as to whether rates are such as to deprive of property, and whether, if so, just compensation is made for the property so taken. Moreover, if a railroad is in fact deprived of its property without just compensation, it is not only denied due process, but, since other persons receive just compensation for property appropriated by the state, it is also denied the equal protection of the laws. Thus these two clauses of the Fourteenth Amendment are both violated.

Something akin to this idea has probably lain behind all of the decisions of the court within the last fifteen years, but it has not always been clearly stated. In the Minnesota case, for example, while Mr. Justice Blatchford gave no expression to such an idea, Mr. Justice Bradley clearly saw that the decision of the majority necessarily involved in it, and in his dissenting opinion he objected to it in decided language.³¹ In other cases, however, the idea has been definitely approved. In 1897, for instance, an unequivocal enunciation of it was made in the *Chicago*, *Burlington*, and *Quincy R. Co. v. Chicago*, where we read these words:

"A judgment of a state court even if it be authorized by statute, whereby private property is taken for the state, or under its direction for public use, without compensation made or secured to the owner, is, upon principle and authority, wanting in the due process of law required by the Fourteenth Amendment of the Constitution of the United States, and the affirmance of such judgment by the highest court of the state is a denial by that state of a

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^{**} See remarks of Mr. Justice Brewer in the Reagan cases, 154 U. S. 399.

²⁴ See 134 U. S. 465.

right secured to the owner by that instrument." 82

This, then, is the fundamental idea in the doctrine of judicial review. The Fourteenth Amendment prohibits the states from appropriating private property without just compensation. The constitutional questions presented by a rate case are, therefore, these:

- 1. Do the rates deprive the railroad company of property?
- 2. If so, has just compensation been made or adequately provided for?

Let us comment first on this second question, as it can be disposed of in a few words, thus leaving us free to examine the first, which will require a somewhat extended treatment.

There can be no doubt that a state's power to appropriate private property for public purposes is unlimited so long as just compensation is made to the owners. clearly within the power of the state, therefore, to reduce a railroad's rates to any extent whatsoever, provided only that it recompenses the company for whatever property may be taken by means of the imposition of rates. This course, however, has never been taken by any of our In other words, no state has yet made provision for payment from the state treasury of amounts required to compensate the railroads for losses due to legislative or commission-made rates. Accordingly this second question has never yet come before the courts. however, a state adopt a plan of compensation and essay to make payment to the companies, there is no doubt that the question would still be open for the courts to decide as to whether the compensation was ample, or " iust."88

²⁶ 166 U. S. 226, 241; and see Backus v. Union Depot Co., 169 U. S. 557, 565.

The real meaning of the doctrine of judicial review has some-

But since no legislation has ever been enacted for compensatory payments the only question which has as yet been presented to the courts is the first of those just mentioned: Do the rates deprive the railroad company of property? To answer this question in any particular case requires an understanding of the broader question as to what amounts to a deprivation of railroad property through a reduction of rates. To the consideration of this question we must now devote ourselves.

To begin with, it may perhaps hardly be necessary to state that property, as the term is used in the Fourteenth Amendment to the Constitution, signifies more than mere tangible objects. Among other things it also embraces the fruits or income of property. To deprive a person of the fruits of his property is to deprive him of property within the meaning of the constitutional prohibition. This being true, the thought which most naturally arises is this: that any change in a railroad's rates which results in a reduction of its earnings must amount to a

times been obscured by a wrong use of the word "compensation." The word has been used occasionally in the sense of a railroad's earnings from operation. For example: "The state cannot withhold from the owners of private property just compensation for its use. That would be a deprivation of property without due process of law." San Diego Land and Township Co. v. National City, 174 U. S. 739. Again: "The corporation may not be required to use its property for the benefit of the public without receiving just compensation for the services rendered by it." Smyth v. Ames, 169 U. S. 546. These statements, of course, are not accurate. They are true only under the assumption that the state has made no provision for indemnifying the railroad for the property taken. While such an assumption is natural in view of the fact that no state has yet made provision for indemnification, this double use of an important word is nevertheless unfortunate, as it tends to confuse an already intricate subject. A railroad is not entitled to just compensation from shippers for services rendered; and it is entitled only to just compensation from the state for property taken through the medium of undue reductions in rates.



deprivation of property, for it has deprived the company of a part of the fruits or income of its property. certainly true in fact, but in contemplation of law it is not. Not even the most ardent exponent of the doctrine of judicial review has gone so far as to assert that all reduction in a railroad's earnings, without compensation, is a violation of the Constitution. In the view of the Supreme Court, the State is competent to reduce income to a certain point. Down to that point the reduction is not a deprivation of property; beyond that point, it is. What is the point? It is the point of "reasonable income." A railroad is entitled to a reasonable income from its business; all income above that amount the state may freely take; but the state cannot reduce its income below that amount without making adequate compensation.

From what has just been said it naturally follows that the question,—do the rates in any given case deprive of property?—resolves itself into two others:

- I. What effect will the rates have on the earnings of the company?
- II. Will the earnings allowed by the rates be a reasonable income?

These two questions a court must answer before it can dispose of a railroad rate case. Now it is easy to see that they are difficult to answer. By what methods is a court to determine the effect of any given rates on earnings? And on what principles is it to judge the reasonableness of a company's income? These are serious questions, presenting many difficulties, and we shall therefore consider them separately and in detail.

I. First, as to the methods of discovering the effect of rates on earnings. There is only one fairly satisfactory way of determining this—for the railroad company to put the rates in operation for a period sufficient to dis-



close their effect on its earnings. But this method, however excellent abstractly considered, is anything but satisfactory to the companies. For if, after the period of trial, it appeared that their earnings had been unduly reduced (i. e., below the point of "reasonableness") they would have no adequate means of recoupment. Their only remedy at law would be to sue each one of the shippers who had used the road during that period for the difference between the rate paid and the fair rate-in many individual cases a trivial sum, but all aggregating a considerable amount. Thus the railroads would have no recourse except to multitudinous and unprofitable It is because of this inadequacy of the remedy at law that the companies early resorted to courts of equity, and that those courts have recognized their right to an injunction restraining the enforcement of rates which seem calculated to unjustly diminish their revenues. deed the almost invariable form of action employed to test the validity of rates is a bill in equity to restrain their enforcement.

But what does this use of the injunction mean? It means that the courts are required to determine, before the rates have been in force at all, whether they will so seriously affect the future earnings of the company as to be repugnant to the constitution. Thus a task of great difficulty is imposed on the courts. It would not, indeed, be a simple matter to discover the exact effect of the rates after they had been in force for a year or more; but to estimate with sufficient accuracy for judicial purposes their future effect, must necessarily be a matter of intricate and elusive character. Nor is the difficulty of the task lightened by the fact that upon that estimate depends the constitutionality of an act of legislation which bears directly upon the welfare of the public and the railroads, as well as upon the success of a great system of railroad

regulation. Constantly has the Court asserted the embarrassing character of this question, but none the less has it recognized its duty to face it squarely.

How, then may the future effect of rates upon earnings be determined? The starting point from which judicial calculations proceed is the assumption that the traffic of the company will continue to be the same that it was for a period of time prior to the establishment of the rates. The effect of the rates is, therefore, to be determined by applying them to the past business of the company. method might, indeed, seem questionable, in view of the universally acknowledged fact that a decrease in rates almost always augments the volume of traffic; and it might therefore seem only fair to assume that the business under the commission's rates, if they were lower than those formerly in force, would be greater than the past business. This view is supported by a solitary passage in the Wellman case where Mr. Justice Brewer said: "may it not be possible,—indeed does not all experience suggest the probability—that a reduction of rates will increase the amount of business and, therefore the earnings?"34

This passage, however, stands alone in the decisions of the Supreme Court. Exactly the opposite assumption has formed the basis of the reasoning in every other case. And, indeed, no better expression of the view actually held by the Court can be found than in the words of Mr. Justice Brewer himself in the Dey case:

"It is said that it cannot be determined in advance what the effect of a reduction of rates will be. Often it increases business, and who can say that it will not in the present case so increase the volume of business as to make it remunerative, even more so than at present? But speculations as to the future are not guides for judicial action: courts determine rights upon existing facts." 35



^{* 143} U. S. 343. * 35 Fed. Rep. 881.

And, apparently, "existing facts" must be interpreted to mean the business which the company has handled for a reasonable period prior to the establishment of the rates, and which may be regarded as assured to it for the future with reasonable certainty.

If, therefore, the actual facts of the past, rather than the probable facts of the future, are to form the starting point of the calculation, how is the Court to proceed? Several ways at once suggest themselves. Obviously the earnings of the company under the new rates might be determined by applying the rates to the former traffic. That is, the number of ton miles actually hauled might be multiplied by the new rate, the product representing the gross earnings from operation possible under the new rate should business neither increase nor diminish. would seem to be a fair and reasonable, as well as a simple method, but curiously enough, it has not received the sanction of the courts. There is some authority for a method which compares the new rate with the actual cost of the service to be performed. Thus in the Becker case.86 where the Minnesota Commission had fixed a switching charge of one dollar per car and the company alleged that the cost of switching one car had been \$1.14, it was held that the new rates would be unremunerative. So, also, in the Gill case, where the legislature of Arkansas had fixed a passenger rate of three cents a mile, the company claimed that the actual cost of carrying a passenger a mile was three and three-tenths cents; and, in sustaining the rate because of the inadequacy of the company's evidence, the Court took no exception to this mode of attempting to show that earnings would be cut down below expenses.

It is submitted, however, that such authority for this

^{*35} Fed. Rep. 883.

method as may be found in these two cases (one of them a circuit court case) is not sufficient to establish it as one to which the Supreme Court has lent its sanction. And in this conviction one is strengthened by the reflection that it is necessarily an erroneous method, inasmuch as it is utterly impossible to determine the cost of any particular service in the railroad industry, even when proceeding upon the basis of past business.

In every case in which the effect of rates upon earnings has been calculated, the Supreme Court has always employed a third method—one which requires a determination of the reduction made by the new rates in the schedules formerly in force. The percentage of reduction in gross earnings will, in contemplation of the courts, be equal to the percentage of reduction in the rates. Thus, in the Smyth case, as we shall presently see, it was found that the law reduced the rates formerly charged by twenty-nine and one-half per cent., and it was therefore held that the law would diminish gross earnings by twenty-nine and one-half per cent.

This is unquestionably the method approved by the Court, and employed in the great cases. It is clearly illustrated in the Dey, Covington, and Smyth cases. In the Reagan cases the same general idea was employed, though it was not asserted, because it was not necessary to assert, that the reduction in earnings would be in exactly the same proportion as the reduction in rates. And in the same proportion as the reduction in rates. And in the Minnesota Eastern case the method was impliedly approved, though it was not necessary to the decision of the case.

Since, then, the basis of the calculation as to whether the new rates will be remunerative, must be the former earnings, the former rates and the former expenses of the company, a further question becomes pertinent. When



the company presents evidence as to these matters, how long a period of time must the evidence cover? show the earnings, expenses, and rates for one, two, three. or more years? This question has never been discussed by the Court, and, therefore, has not been authoritatively answered. The time covered by the evidence in actual cases has varied greatly. In the Dev case, it was one vear. In the Wellman case the offering was again for one year, and although the suit went against the railroad it was not because of the short period covered by the evi-In the Covington case, the business of the road " for a number of years last past" formed the basis of the contention; while in the Smyth case the term was three, and in the Reagan cases, a little more than three years. In the final disposition of the Tompkins case, evidence for one year only was held sufficient. It is evident, therefore, that three years are adequate, and it is probable that one would be regarded as sufficient, unless it could be shown to have been an exceptional year.

It may now be advantageous to illustrate this judicial method of determining the effect of rates on earnings by describing the process employed by the Supreme Court in an important and typical case. Smyth v. Ames furnishes excellent material for the purpose of such an illustration. That case involved the Nebraska Maximum Freight Rate Act of 1893, which contained a classification of freight and prescribed a general schedule of rates. Seven railroads were involved in the suit, and the problem before the Court was to determine the effect of the legislative rates on the earnings of those companies.

The Court approached the problem by approving the railroad's contention that a proper method of testing the legality of the rates would be to determine their effect had they been in force during the three years preceding their promulgation. Its next step was to announce as a

conclusion from the evidence that the act reduced the rates in force by 29.5 per cent., that is, that the legislative rates were on the average only 70.5 per cent. of the rates which were being operated in 1893 and had been operated for some three years or more as a result of voluntary action on the part of the roads concerned. These preliminary points determined, the way was open to attack the main problem.

The Court next presented a number of tables containing statistics regarding the affairs of the seven roads during the three years under discussion. From these tables the items of essential importance have been taken and are reproduced in the table below. It will be seen that in the first column is given the gross receipts from local, or infra-state freight received by each road each year. In the second column is given the amount of reduction which would have resulted from the Act had it been in force during each of the years. This, of course, is 201 per cent. of the actual receipts-since it had already been decided that the rates were reduced 29½ per cent. by the The third column consists of the remainders left after subtracting the amounts in the second from those in the first column, and shows the amounts which would have been received had the Act been in force. The next column gives the gross operating expenses incurred in handling the local freight. The last two columns are a result of comparing the third and fourth, and show the amounts which the companies would have gained or lost, so far as local freight is concerned, had they been operating the rates fixed by the Act.

1891	Gross receipts from local freight	Amount of reduction by Act—29½ per cent.	What would have been received under rates fixed by Act	Total expense of local business	Gain	Loss
Burlington Road	\$1,066.871	\$314,726	\$752,145	\$813,382		\$61,237
St. Paul Road	110,933	32,725	78,908	89,61 z		11,403
Fremont Road	348,408	102,780	245,628	288,591	\$37,087	
Union Pacific Road	278,211	82,072	196,139	219,619		23,480
Omaha Road	75,58z	22,296	53,285	98,451		45,166
St. Joseph Road	21.817	6,436	15,381	23,281		7,840
Kansas City Road	6,732	1,985	4,747	7.374		8,687
1892						
Burlington Road	1,237,884	365,175	872,709	918,881		46,172
St. Paul Road	123,033	36,264	86,739	93.455		6,716
Fremont Road	336.714	99,330	237,384	271,761		34,377
Union Pacific Road	398, 3 6s	117,487	280,7 75	264,605	16,170	
Omaha Road	88,335	26,058	62,277	91,000		98.8z3
St. Joseph Road	31,004	9,146	21,858	26,124		4 256
Kansas City Road	6,630	1,955	4,674	5,648		974
1893						
Burlington Road	1,242,416	366,512	875,904	938,147		62,243
St. Paul Road	142,542	42,049	100,493	106,307		5,814
Fremont Road	424.437	125,208	299,229	270,193	20,036	
Union Pacific Road	413,714	122,045	291,669	98 3.435	8,234	
Omaha Road	80,519	23,753	56,766	8 3,851		27,085
St. Joseph Road	33,802	9,971	23,831	24,354		523
Kansas City Road	9,445	2,786	6,659	8,169		1,510

A word should perhaps be added as to the method of estimating the total cost of local freight business. Taking all business, the percentage of actual gross expenses to actual gross receipts was found for each company. It was then decided, on the basis of evidence submitted, that the percentage of operating expenses to earnings is, in general, fully 10 per cent. higher on local traffic than on all the business of a company.³⁷ The first percentage found was therefore increased by ten to get the percentage of expenses to earnings on local business. This percentage was then taken of the gross receipts from local freight. The result was the cost of the local freight business. For example, it was found that in 1891 the

In other cases the Court has recognized the higher cost of local business above interstate or through business. "That there is a difference is manifest, and upon such difference the opinion of experts familiar with railroad business is competent testimony and cannot be disregarded." Chicago, Milwaukee and St. Paul Ry. Co. v. Tompkins, 176 U. S. 179. Because of this difference in cost the sum of two local rates conceded to be reasonable is not necessarily a reasonable through rate. Minneapolis and St. Paul R. Co. v. Minnesota, 186 U. S. 262.

percentage of expenses to earnings on all the business of the Burlington road was 66.24. The percentage of expenses to receipts on local business alone was accordingly held to be 76.24. But now, as appears from the table above, the earnings of the Burlington from local freight in 1891 were \$1,066,871. The expenses of that freight were therefore 76.24 per cent. of \$1,066,871, or \$813,382. Similar calculations were made in each of the other cases.

Before concluding our remarks on the method of determining the effect of rates on earnings it is necessary to notice one further matter. A study of the illustrative case just described naturally prompts the following query. The doctrine of judicial review forbids a state to deprive a railroad of the reasonable income on its property without just compensation; yet in this case of Smyth v. Ames inquiry was not made as to the effect of the rates on the earning power of each company; the effect of the rates on earnings from local freight only was considered. But now, might it not be possible that the small loss on local freight business might not seriously affect the total earnings of the company from all sources-inter-state as well as local; passenger, express, etc., as well as freight? In other words, might not the company still be able to earn a reasonable income from its business in spite of this loss on local freight in Nebraska? And if so, why should the Nebraska Act be held to be repugnant to the Constitution?

This question was squarely presented in $Smyth\ v.$ Ames and so far as questions of inter-state and local business are concerned was answered by the Court in the following language: "The reasonableness or unreasonableness of rates prescribed by a State for the transportation of personal property within its limits must be determined without reference to the interstate business done by the car-



rier, or to the profits derived from it. The State cannot justify unreasonably low rates for domestic transportation, considered alone, upon the ground that the carrier is earning large profits on its inter-state business. Nor can the carrier justify unreasonably high rates on domestic business upon the ground that it will be able only in that way to meet losses on its inter-state business."³⁸

Continuing, the Court explained more definitely the reason for this view by quoting from the opinion of Mr. fustice Brewer rendered when the case was in the Circuit Court. "It may be as stated by counsel," that jurist had said, "that the annual earnings of the Chicago, Burlington and Quincy Co. are \$27,916,128, and that the total amount of reduction 89 is only \$365,175; . . . but the entire earnings of the Chicago, Burlington and Quincy are more than twenty times the receipts from local freight in Nebraska, and to reduce such earnings by twenty times \$365,175, would make a startling difference in their The fact that the State of Nebraska can reach only one-twentieth of the total earnings gives it no greater right to make a reduction in regard to that one-twentieth than it would have, had it the power over the total earnings and attempted in them a like per cent. of reduction. If it would be unreasonable to reduce the total earnings of these roads twenty-nine and a half per cent., it is, prima facia, at least, equally unreasonable to so reduce any single fractional part of such earnings."

From these quotations the relations of interstate and local traffic to the case are perfectly clear. A single state controls only part of the business of a road; as to that business it can reduce earnings only in a proportion which would be fair if applied to all earnings of the company—because, of course, it is only by means of this

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^{* 169} U. S. 541.

[&]quot;Caused by the Act.

principle that other jurisdictions to which the company is subject, can exercise an equal power of control. there is another aspect of the question which is not at all clear. What may be said in regard to the purely local traffic which the State exclusively controls? That traffic consists of various elements-freight, passenger, milk, express and mail. Can the state justify an unreasonable reduction in earnings from freight 40 on the ground that the reduction caused thereby in the total local earnings is no more than reasonable, because of large earnings permitted on passenger and other traffic? Can a state, in other words, justify its conduct in controlling railroads, by showing that it permits a reasonable income from all of the business subject to its control—although the various elements in that business may be very unequally treated?

No explicit answer to this question can be found in the opinions of the Supreme Court. A fair inference, however, from the opinion in Smyth v. Ames seems to give a negative reply. From what is there said, it seems fair to conclude that the percentage of reduction in earnings from each separate class of local traffic must not be greater than would be reasonable were it applied to all the business of the company. It is true that some doubt is thrown on the matter by the last sentence in the quotation last given from Mr. Justice Brewer: "If it would be unjust to reduce the total earnings of these roads twenty-nine and a half per cent., it is, prima facial, at least, equally unreasonable to reduce any single fractional part of such earnings." The words, "prima facia, at least," are the significant ones. They imply that it is a presumption which may possibly be rebutted. Nevertheless Mr. Justice Brewer had himself just declared, in regard to

*That is, a percentage of reduction which is applied to all the earnings of the company would be unreasonable.



the evidence that the rates would reduce earnings by twenty-nine and a half per cent.: "The effect of this testimony is not destroyed by the table offered of the percentage of reduction on the total amount of business done by these companies in the state." And in the table referred to, "the total amount of business done by these companies in the state" meant the gross earnings from passengers and freight, both through and local, carried in Nebraska. All this would seem to imply that the compensatory effect of large passenger earnings would not be considered, and that the public regulation of each class of traffic must stand or fall by itself. This is only an inference, however, and in the absence of a direct decision on the point, no positive statement can be offered with confidence.

One or two other questions have arisen as to the earnings which should be considered when estimating the effect of rates established by a state. In the Gill case it was held that they should be the earnings from local business on all the line of company within the state, and not on any one part of it.41 The Supreme Court has also recently held that a commission may impose very low rates on isolated articles of freight; and that it is not good defense for a railroad to show, in such a case, that the same rates applied to all classes of freight would prevent it from earning a reasonable income. The rates may be justified, if the company can recoup its loss on the particular articles from gains on other parts of its local business, so that a "reasonable income" is still earned. But whether the recoupment must come from gains on local freight, or whether it may come from gains on all local business is not clearly disclosed. It seems probable, however, that the former is the rule.

^{4 156} U. S. 666.

Let us now summarize the decisions as to the earnings which should be considered. That they should be the earnings from purely local, and not from inter-state business is certain; that they should be the earnings from the local business on the entire road of the company within the state is also certain; that they should be the total earnings from local freight if rates on a few articles only are concerned is probable, though not certain; and that they should be the total earnings from local freight if freight rates are concerned, from passenger traffic if passenger rates are concerned, and so forth, is also probable, though not certain. But for these uncertainties, then, it could be said that the earnings to be considered are the total local earnings from the class of traffic affected by the rates in question.

II. We have now discussed the judicial methods employed in determining the effect of rates upon earnings. This question answered, however, the work of a court in any case is but partly done. Before a reply can be made to the initial query—do the rates deprive of property?—a further inquiry is necessary. The court must ask whether the earnings permitted by the rates can fairly be called a "reasonable income" from the railroad's business.⁴² If they can, then the rates do not deprive of property; if they cannot, the reverse is true. But now upon what principles is a court to determine what income is "reasonable?" This question we must now examine; and accordingly the next chapter will be devoted to its discussion.

[&]quot;Supra, p. 54.

CHAPTER IV.

The Doctrine of Judicial Review.—III.

What are the principles by which the "reasonableness" of railroad earnings may be judged? The vagueness of the term "reasonableness" at once suggests the difficulty of the question. It is hard indeed to determine the principles; and harder yet to apply them in a concrete case. Yet the task of doing both of these things has fallen upon the courts, and consequently an attempt may be made to gather from their dicta and from their acts an idea of what, in judicial contemplation, the word "reasonableness" implies.

In pursuing this inquiry we have not the advantage of perfectly consistent expressions of opinion by the various courts, nor even by the several members of the Supreme Court, and an entirely satisfactory result is therefore impossible. The form of the problem confronting the judiciary, nevertheless, is evident. Are earnings reasonable if sufficient to pay only operating expenses? Or must they also cover fixed charges? May it even be true that beyond this they must provide a dividend upon the stock of the corporation? And, if so, how large a dividend is to be regarded as reasonable?

The difficulty of determining with precision the judicial attitude on these questions is enhanced by the fact that very much that has been said upon them has been of the nature of obiter dicta. Caution, of course, demands that proper discrimination be made between such dicta and principles which were, so to speak, essential in the decrees of the court. And a final construction of the judicial

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doctrine on this point must necessarily give more weight to the latter than to the former.

A brief attention to some of the principal cases will best serve to introduce this subject. In the Dey case the railroad alleged that the reduction in the schedules would decrease earnings by a sum exceeding the amount paid out in dividends in each of the three preceding years, and that the effect would be to prevent the railroad from declaring any dividend at all. There being no evidence from the state to the contrary the enforcement of the rates was enjoined. In his opinion Judge Brewer declared what, in his judgment, constituted a reasonable income, stating it to be such as would cover all operating expenses, all fixed charges, and some dividend, however small, the size of the dividend being purely a matter for legislative discretion.¹

In the Reagan cases a number of railroads were involved. All of them were in anything but a prosperous condition; some had never paid operating expenses, to say nothing of fixed charges and dividends. The best of them had not for three years been able to meet all of their fixed charges. It was shown that the rates imposed by the Texas Commission were lower than those formerly in force, and this, according to the theory of the courts already mentioned, was conclusive evidence that earnings would be reduced by them, The rates were accordingly suspended, the Supreme Court holding that because the roads had been operated in the past at a loss to the owners it was not just to so reduce rates as to increase the amount of that loss.²

In the Covington case the turnpike company set up that for a number of years last past its operating expenses had averaged about one-half of its earnings, that inasmuch as



¹ 35 Fed. Rep. 879.

² 154 U. S. 419.

the legislative act reduced the tolls about fifty per cent. its future earnings would barely cover ordinary expenditures; and that, moreover, certain extensive repairs would be imperatively necessary in the near future. The Supreme Court thereupon suspended the rates, stating that they were so low as to prevent the company "from maintaining its road in proper condition for public use, or from earning any dividends whatever for stock holders."

In the Smyth case, as we have already seen,⁴ the court determined that, generally speaking, the earnings permitted by the legislative rates would not cover operating expenses. It is true that in four out of the twenty-one cases presented in the table, some excess over expenses appeared, but as to those exceptional cases the Court held that "the receipts or gains above operating expenses would have been too small to affect the general conclusion that the act, if enforced, would have deprived each of the railroad companies involved in these suits of the just compensation secured to them by the Constitution."⁵

In the final disposition of the Tompkins case the Commission's rates were suspended because it was found that, while the earnings under the rates would be sufficient to pay all operating expenses, the balance left would not be sufficient to pay the proportion of the interest on the bonded debt properly chargeable to local traffic.⁶

The inference to be drawn from what has so far been said is that earnings, to be reasonable, must cover all operating expenses and fixed charges, and must even allow some dividend upon stock. In the Dey case, as we have just seen, Mr. Justice Brewer held that rates permitting any dividend, however minute, are fair, but a few

^{3 164} U. S. 592.

⁴ Supra, p. 61.

⁶ 169 U. S. 547.

Railroad Co. v. Smith, 110 Fed. Rep. 473.

years later, in his opinion in the Wellman case, we find him implying, though not asserting, that the dividends ought to be "reasonable." "The courts," he declared, "should be fully advised as to what is done with the receipts and earnings of the Company, for if so advised it might clearly appear that a prudent and honest management would, within the rates prescribed, secure to the bondholders their interest and to the stockholders reasonable dividends."

In regard to the size of the dividends to be allowed, some of the lower courts have gone even further than this. Thus, in the New Memphis Gas and Light Co. v. Memphis, District Judge Clark held that the dividends to which a quasi-public corporation is entitled while under public control should "correspond to the ruling rate of interest." And in the Southern Pacific Railroad Co. v. Railroad Commissions Mr. Justice McKenna, then a circuit judge, denounced the idea that a railroad company should be compelled to accept a "microscopical profit." In his view dividends ought to be adequate in every case—though what "adequate" might mean is not disclosed.

It is safe to say, however, that the Supreme Court has not indorsed these extreme views. On the contrary, it has been gradually assuming, in its dicta at least, a much more conservative attitude. The general principle which the Court seems to have adopted is this: that a railroad company is entitled to earnings sufficient to pay operating expenses, fixed charges, and some dividend—a reasonable dividend. But it has repeatedly declared that this is only a general proposition and that it may have many exceptions. That is to say, there may be cases in which earnings not sufficient to pay dividends, or not even sufficient

¹⁴³ U. S. 345.

^{*72} Fed. Rep. 952.

^{&#}x27;78 Fed. Rep. 236.

to pay all expenses and fixed charges will be held to be reasonable.

Thus in the Reagan cases it was said:

"It is unnecessary to decide, and we do not wish to be understood as laying down as an absolute rule that in every case a failure to produce some profit to those who have invested their money in the building of a road is conclusive that the tariff is unjust and unreasonable. . . . There may be circumstances which would justify such a tariff." 10

Fully as pointed are the remarks of Mr. Justice Harlan in the Covington Case:

"It cannot be said that a corporation is entitled, as of right, and without reference to the interests of the public, to realize a given per cent. upon its capital stock. . . . The public cannot properly be subjected to unreasonable rates in order simply that stockholders may earn dividends. . . . If a corporation cannot maintain such a highway and earn dividends for stockholders, it is a misfortune for it and them which the Constitution does not require to be remedied by imposing unjust burdens upon the public." ¹¹

This same general idea was restated with much force by the same learned justice in Smyth v. Ames, and has received confirmation in other cases. In fact the Supreme Court, by oft-repeated dicta, has practically committed itself to the doctrine that, although as a general proposition, a railroad is entitled to earn reasonable dividends, that right is not absolute, but is subject to limitations. Conditions may exist and circumstances arise which would justify the state in imposing rates under which earnings would be reduced to or below the dividend paying point. While but very few of these conditions have ever been present in any case in such a way as to affect the decision, and are therefore entitled to rank as precedents, many

^{10 154} U. S. 412.

[&]quot; 164 U. S. 596, 597.

²³ See San Diego, etc. Co. v. National City, 174 U. S. 757.

others have been stated and some often restated as obiter dicta, and are therefore entitled to some consideration. We have, now, therefore, to inquire what those circumstances and conditions are which may in some cases justify rates too low to be profitable to the railroad, and which ,moreover, when a dividend is allowed, must enter into the determination of the question as to whether that dividend is reasonable. Throughout the discussion it should be borne in mind that obiter dicta alone are being dealt with, except where the contrary is specifically stated.

The circumstances recognized in the opinion of the Supreme Court may be classified under four heads—those affecting the base upon which the rate of profit should be reckoned; those which have to do with the management of the road; those which have to do with the rights of the public; and those which have to do with the industrial condition of the community traversed by the road. Let us consider these in order.

I. In the first place it has been held that what a company is entitled to demand is no more than a "fair return on the reasonable value of the property at the time it is being used for the public." The rate of profit which should be secured by the rates must therefore be reckoned not on the capitalization of the company, but upon the "reasonable value" or "fair value of the property used by the railroad for the public convenience." As a result of stock watering, or otherwise, the face value of the bonds and stocks may exceed this "fair value"; nevertheless earnings no more than a fair return on the real value need be allowed by the rates for distribution among the security holders. "If a railroad corporation has bonded its property for an amount that exceeds its fair value, or if its capitalization is largely fictitious, it may not impose

¹⁴ Smyth v. Ames, 169 U. S. 546.



¹⁸ San Diego Land and Town Co. v. National City, 174 U. S. 757.

upon the public the burden of such increased rates as may be required for the purpose of realizing profits upon such excessive valuation or fictitious capitalization."¹⁵ The elements to be considered in determining the "fair value" of the property have of course been recognized as multitudinous, but in *Smyth v. Ames* the following enumeration was given to suggest such as are of special importance.¹⁶

- 1. The original cost of construction.
- 2. The amount expended in permanent improvements.
- 3. The present as compared with the original cost of construction.¹⁷
- 4. The amount and market value of the stocks and bonds.
- 5. The probable earning capacity of the road under the rates in question.¹⁸
 - 6. The amount of operating expenses.18
 - 7. Whatever other matters may be properly considered.

 In the Reagan cases additional emphasis was laid on
 the third of these considerations. In its opinion the

the third of these considerations. In its opinion the Court remarked that the construction of a road might

¹⁸ Smyth v. Ames, 169 U. S. 544, and see San Diego, etc. Co. v. National City, 174 U. S. 757-8.

¹⁶⁹ U. S. 547.

[&]quot; It is not certain whether this means "present value" or "present cost of duplication" as compared with the original cost of construction.

¹⁰ It is difficult to see what the fifth and sixth consideration have to do with this immediate question. The problem is to find the fair value of the property, in order to get a base upon which to reckon the percentage of profits which the tariff in question will yield. The amount of those profits is no doubt to be largely determined by the earning capacity of the road under the tariff, as compared to its operating and other expenses. If earning capacity and expenses are considered in discovering this amount of profits, it would of course be a mistake to consider them in determining value of the property to which that amount is to be referred in order to arrive at the per centage of profit.

have been at a time when material and labor commanded a high price, the actual cost of the road therefore exceeding its present value; and that, moreover, there might have been extravagance or needless expenditure of money on the railroad.¹⁹ The actual outlay of money is not, therefore, in such cases, a test of the "fair value" of the property, and if securities had been issued to cover this outlay, they should not be taken as the base upon which to reckon profits. The same principle was later laid down with added force in the San Diego case.²⁰

II. In the second place it has been held that unless the administration of a road has been economical and honest, the company's defense against legislative control is weakened. If its earnings have been reduced by its own imprudent or dishonest management, it cannot always successfully resist a reduction in rates on the ground of its already scanty revenue. Thus in the Reagan cases it was declared that if there has been waste in the management of a road, if the company has been paying "enormous salaries" or has been indulging in "unjust discriminations resulting in general loss," it cannot use the practices as a defense against legislative reduction in rates.²¹ The legislative rates will be sustained if they would permit a reasonable income to a company which would abstain from such practices.

This general principle, moreover, is not supported by obiter dicta alone. In the Wellman case it was to a certain extent involved in the disposal of the suit. One of the grounds on which the Court sustained the rates was that the railroad had made no showing as to what had been done with its earnings. The court declared that it should be fully advised on this point, "for if so advised,

^{19 154} U. S. 412.

[&]quot; 174 U. S. 757-8.

²¹ 154 U. S. 412.

it might clearly appear that a prudent and honest management would, within the rates prescribed, secure to the bondholders their interest and to the stockholders reasonable dividends." ²²

III. In the third place, the Court has repeatedly declared that the railroad's right to earnings is further circumscribed by considerations relative to the rights of the public. In the Minnesota case²⁸ Justice Blatchford stated that the question of the reasonableness of a rate involved the element of reasonableness as regards the public as well as the railroad, and in his concurring opinion Justice Miller denied the right even of the legislature to make rates "in utter disregard of the rights of the public." 24 Again, in the Reagan cases,25 in concluding his statement of limitations upon the right of railroads to profits. Justice Brewer said that there were doubtless many other matters affecting the rights of the community in which the road is built. The idea was expressed with much more force and elaboration in later cases. We have already had occasion to quote some of Mr. Justice Harlan's utterances on this point in the Covington case.²⁶ Again. speaking for the Court in the Smyth case, he referred to the railroads' contention that rates ought to permit the payment of dividends as well as all expenses, commenting upon it in these words:

"In our opinion the broad proposition advanced by counsel involves some misconception of the relations between the public and a railroad corporation. It is unsound in that it practically excludes from consideration the fair value of the property used, omits altogether any consideration of the right of the public to be exempt from unreasonable exactions, and makes the interests of the

^{28 143} U. S. 345.

^{28 134} U. S. 458.

³⁴ U. S. 459.

^{* 154} U. S. 412.

[&]quot;Supra, p. 71.

corporation maintaining a public highway the sole test in determining whether the rates established by or for it are such as may be rightfully prescribed as between it and the public." ²⁷

Upon this point the utterances of the Court have been clear, vigorous and numerous. Stated briefly, rates must be just both to the public and to the railroad:—these are the words in which the theory has been repeatedly phrased in the dicta of the Court.²⁸ Unfortunately, however, these dicta have always been obiter. The nearest approach to an exception to this statement may be found in the Gill case, which was a suit between a railroad and a private citizen, in which no public officers were involved. The company's contentions were admitted in the demurrer of its opponents; but, deciding that these contentions were not sufficient to prove the schedule unreasonable, the Court sustained it, adding, moreover, an expression of its reluctance to declare rates void when "the company's case depended on allegations admitted in the demurrer of a party who in no adequate sense represents the public."29

Aside from this, the numerous declarations of the Court, that the rights of the public are not to be ignored, that rates must be just to the public as well as to the railroad, and that therefore earnings must not be higher than what is fair, regarding the question from the point of view of the public as well as the corporate interest, have all been uttered as obiter dicta.

IV. Closely related to the principle just mentioned are certain other circumstances and conditions recognized by the court as important in determining the reasonableness of a railroad's income. Indeed, they may be regarded as more definite applications of the general and somewhat

^{# 169} U. S. 543.

^{** 164} U. S. 596, 598; 169 U. S. 547; 173 U. S. 687; and 174 U. S. 754-6.

^{* 156} U. S. 666.

abstract principle that the rights of the public must be considered. These are the considerations which pertain to the industrial condition of the country through which the road is built.

In a recent case the broad and very general rule has been laid down that when the condition of the country is such that rates high enough to pay operating expenses would be exorbitant, the legislature may impose lower one.³⁰ At first blush this declaration seems a little startling, but when it is remembered that the force of the rule depends upon the meaning given to the word "exorbitant," apprehension is speedily abated. No definition of the term was given in that case, nor has one been given since. The exact or even approximate meaning of the dictum is therefore still undetermined.

In other cases, however, the Supreme Court has been more specific. In the Reagan cases it held that a road which was unwisely built, in localities where there is not sufficient business to sustain a road, may not be entitled to earnings sufficient to remunerate those who have put money into it.³¹ And in the Covington case it was held that when competition of new lines has so reduced business that earnings sufficient to yield a profit on the business would necessitate rates unjust to shippers and the public, the company must be content with smaller earnings.³²

Such are the circumstances and conditions which, according to the dicta of the Supreme Court, are to be considered in determining what a reasonable income is, in the case of any particular railroad; such are the considerations which must decide the question as to whether the general rule shall prevail—that a railroad is entitled to revenue sufficient for all expenses and for dividends as

Minneapolis and St. Louis Rd. Co. v. Minnesota, 186 U. S. 268.

¹¹ 154 U. S. 412.

[&]quot; 164 U. S. 596.

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well—and which furthermore determine the amount of dividends which may be regarded as reasonable, if any are allowed. This matter decided, a court's task is practically done. It has but to compare the earnings thus decided to be reasonable with the earnings possible under the rates in question. If the former are less than the latter the rates are valid; if greater, the rates will clearly general rule shall prevail—that a railroad is entitled to deprive the company of a part of its reasonable income, and to that extent will deprive it of property. In the absence of just compensation, therefore, the rates will be held unconstitutional and void.

In looking over this summary of "circumstances and conditions" one cannot but be impressed with the inadequacy of the principles which have so far been announced by the Court as controlling the question of reasonableness in earnings. Their inadequacy arises from two principal causes: first, their small number, and second, the vagueness and generality of some of them. At this point the doctrine of judicial review is in need of considerable elaboration, and of much more definite and detailed statement. It is to be hoped that litigation will soon make necessary the further development of this phase of the doctrine and will lead to its more thorough, more precise, and more concrete exposition. At the present time one of the crucial tests in determining the validity of rates reasonableness of earnings—is but poorly understood; and public control of railroad rates must therefore find its progress retarded until the subject is fully illumined. For this weakness in the doctrine of judicial review. however, the Supreme Court is not to blame. For up to the present time but few points in connection with that subject have been presented to the Court for its decision, and therefore what principles we find in the reported cases are for the most part voluntarily tendered by the Court to promote a better understanding of a difficult subject.



What, now, is the doctrine of judicial review? We have seen the crude form which it took in the Minnesota case, and we have considered its evolution as it may be traced in later cases. It remains now simply to state what, as the result of the whole discussion, we may regard as the doctrine of judicial review. The following is offered as a formal statement of the doctrine:

- I. Although railroad companies are quasi-public in character they are entitled to the protection of the Fourteenth Amendment. Therefore:
- 1. They cannot be deprived of property without due process of law. But to deprive a railroad of the reasonable income from its property without just compensation is to deprive it of property without due process of law within the meaning of the Amendment. Rates, then, which are calculated to reduce a railroad's earnings below the point of reasonableness are repugnant to the Constitution, unless compensation is made by the state for the property so taken.
- 2. They cannot be denied the equal protection of the laws. But if they are deprived of property without just compensation while other persons receive such compensation for property appropriated by the State, they are denied the equal protection of the laws.
- II. There may, then, be a question raised as to the constitutionality of rates established by the state. This question it is, of course, competent for any court, and especially for the courts of the United States,³³ to decide. Its determination necessarily involves a consideration of three minor questions:
- 1. Whether the rates in question do deprive, or if they have not been put in force, whether they are calculated to deprive the railroad of those reasonable returns from its business to which it is entitled;

[&]quot; 156 U. S. 657.

- 2. Whether the state has made any provision for reimbursing the railroad for such loss of property as may be involved, and
- 3. Whether such compensation is just and adequate. Should the first question be answered in the affirmative and the other two in the negative, or should the first two be answered in the affirmative and the third in the negative, the rates must be held to be repugnant to the Constitution, and must be restrained. Otherwise they must be sustained. In deciding the first question the courts determine the effect of the rates on earnings, and also the reasonableness of the company's earnings according to the principles and methods set forth in this and the last chapter.

It may be well to conclude this inquiry into the evolution of the doctrine of judicial review by setting forth a few miscellaneous considerations which may be found in the opinions of the Court. That the presumption is always in favor of the rates has, of course, been recognized, and in recent decisions there has been a well-marked tendency to specifically state that fact. On the authority of the Wellman case it may be said that rates should not be overthrown in a friendly suit, or upon agreed and general statements of fact, or upon the testimony of two witnesses. In the Tompkins case it was decided that the proper procedure is for a court to appoint a master whose duty it is to fully find all facts needed by the court in the determination of the case.⁸⁴

In Smyth v. Ames the Court definitely commented on the idea so often implied in popular discussion that it is a strong argument against rates in one state to show that rates are, in general, lower in neighboring states. That little if any weight should be attached to such a contention is clearly inferable from the foregoing exposition of

^{4 176} U. S. 167.

the methods of the Court, for we have seen that the effect of rates is to be determined as to each railroad, with respect to its earnings and expenses on purely local business. In the case just referred to, however, the Court made inference unnecessary by quoting with approval the explicit statement of Mr. Justice Brewer in the court below:

"To enforce the same rates in both states might result in great injustice in one while in the other it would only be reasonable and fair. . . . A mere difference of rates in two states is of comparatively little significance." 85

The question has occasionally arisen as to whether a court, in setting aside rates as unconstitutional, may substitute in their place others which in its opinion are conformable to the Constitutional requirements. This power the courts have never asserted. In fact they have definitely disclaimed it. "The courts are not authorized." said Mr. Justice Brewer in his opinion in the Reagan cases, "to revise or change the body of rates imposed by a legislature or a commission; they do not engage in any mere administrative work." And twice in the same opinion he reiterated the substance of this remark.⁸⁶ The true distinction which determines the answer to this question is most clearly drawn in the Interstate Commerce Commission v. Cincinnati, etc. R. Co.: "It is one thing to inquire whether the rates which have been charged and collected are reasonable—that is a judicial act; but an entirely different thing to prescribe rates which shall be charged in the future—that is a legislative act." 87 then, beyond the scope of judicial authority to substitute valid rates for those which have been declared invalid.

Still another question has arisen in cases involving a state law which provides that the rates shall not be con-

^{* 169} U. S. 539.

^{* 167} U. S. 479, 499.

⁸⁷ 154 U. S. 397, 399, 400.

clusively reasonable, but that the railroad may test their reasonableness in the state courts. In the presence of such a law, may a suit be brought at once in a federal court? Such were the provisions of laws involved in both the Reagan and Smyth cases. There could be but one answer to the question, however, and it was given clearly by Mr. Justice Brewer in the Reagan case:

"No legislation of a state, as to the mode of proceeding in its own courts, can abridge or modify the powers existing in the Federal Courts, sitting as courts of equity. So that if in any case, there should be any mistaken action on the part of a State, or its Commission, injurious to the rights of a railroad corporation, any citizen of another state, interested directly therein, can find in the Federal court, all the relief which a court of equity is justified in giving." 88

We have now concluded our study of the growth of the doctrine of judicial review and are ready to consider the effect which that doctrine has had on the efficiency of state railroad control.



^{* 154} U. S. 395.

CHAPTER V.

THE RESULTS OF THE DOCTRINE .--- I.

We are now to undertake an investigation of the influence which the doctrine of judicial review has exerted on our American system of railroad control, in order to discover whether it has strengthened or weakened the efficiency of that control. In this inquiry we shall consider, first, its effect on the state's power to reduce rates; second, its effect on the state's power to enforce the rates it has established; and third, its effect, as a resultant of the other two, upon the spirit and ideas of railroad commissions.

Before coming to these precise questions, however, we shall do well to reflect for a moment upon the spirit of the law which has shaped the doctrine of judicial review. and which directs its application; for it will serve to illumine our entire discussion of this subject to recall at the outset the general attitude of the law and of the courts in all cases which involve both public and private interests. The attitude of the courts is determined by the fact that they are charged with the duty of interpreting and applying a law in which the individualistic spirit of the age has been firmly crystalized. In our modern regime the individual is the central figure. His importance, his dignity, his sanctity, his rights, and his liberties are everywhere recognized. His use of a free ballot is supposed to guard civil rights and to shape aright the course of government; his pursuit of his individual self-interest is supposed to secure industrial justice and welfare; his freedom of conscience, of thought, of will, and of action is not to be lightly infringed. "All men are created free and equal,"

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says our Declaration of Independence, "and are endowed by their Creator with certain inalienable rights. . . . To secure these rights, governments are established among men." The only limitation upon them is that they shall not, in their exercise, encroach upon the equal rights of other individuals.

It is true that this is a theory which has been gradually losing its hold both upon the minds and upon the hearts of men. So pernicious have been some of its results, especially in the world of industry, that the inquiry now is whether it has not passed the zenith of its usefulness, and whether it is not now necessary to modify it by an assertion of the social duties and responsibilities of individuals, and accordingly, by the enactment of laws restricting the individual for the general good. In this inquiry different minds have pursued different courses, have gone different lengths, and have, of course, reached different conclusions. Socialists would have us abandon the theory of individualism entirely and substitute therefor a theory of social duty, to be applied by the state. Long since, more conservative minds suggested factory legislation. Some thirty years ago, the consensus of public opinion demanded regulation of railroads for the public good. To-day there is agitation for municipal ownership, trust regulation, and other limitations upon private enterprise. This view is not intended to be complete. Its purpose is merely to recall the fundamental theory upon which our society is based, and some of the modifications of it which have been urged by many from time to time.

But while observing the gradual departure from the theory of individualism in industrial economics we must always remember that the law under which we live grew up with the growth of the individualistic theory and has received its stamp. The history of the English law is a



record of the successful struggle of the individual, first for recognition, and then for supremacy. Indeed our law is permeated, saturated, with the theory of individual rights. Two centuries ago English law had been shaped to that theory, while in our country it no less lies at the basis of our law; and its dignity has been recognized in the bills of rights of our state constitutions, and in most of the Amendments to the Federal Constitution. limitations as the state may impose on private rights are regarded as exceptions to the general rule, repugnant to the spirit and genius of the law, and therefore to be confined within strict bounds. Moreover—and this is a point of deep significance—for almost all purposes the law considers those artificial persons, corporations, as individuals entitled to the legal rights and privileges of natural persons.

This is the law which our courts are established to interpret and apply. "The primary duty of the courts," said Mr. Justice Brewer, in deciding Railway Co. v. Dey, "is the protection of the rights of persons and property." And again, speaking for the Supreme Court in the Wellman case, he said, "the protection of vested rights of property is a supreme duty of the courts." This duty, it must be admitted, has not been neglected. In railroad rate cases its demands have been faithfully obeyed.

Such being the character of the law in which our judges are trained, and such being the acknowledged duty of the courts in its application, it is but natural that the professional sympathies of judges should all be with the railroads. Not that the judges, as *men*, are callous to the abuses which for a third of a century have irritated the general public, sometimes beyond the point of endurance;

¹ 35 Fed. Rep. 872.

³ 143 U. S. 346.

but nevertheless, as judges, they must apply a law which is in thorough sympathy with private persons, their property and rights, and which knows almost nothing of the "public welfare" except as it is to be secured through the assertion and maintenance of individual rights. If it be true, as is sometimes stated, that judges are disposed to subordinate the public weal to individual advantage, it is because they have entered fully into the spirit of a system of law which allows no other course.

In the light of these general observations, let us proceed to inquire the effect of the doctrine of judicial review, as developed and applied under our legal system, and first to notice the manner in which it has affected the power of the states to reduce rates.

Low rates are not, of course, the only ideal of railroad Doubtless the most important thing is proregulation. portion, that is, a proper adjustment of rates as among the various commodities and the various localities. given this adjustment, the lower rates are, the better. There can be no doubt that the public interest demands that, so long as the due proportion is not disturbed, rates shall be as low as possible. A commission, therefore, being charged with the duty of advancing the public welfare, must require reductions in railroad schedules which are too high to be in accord with the public interest. And the efficiency of a commission must depend in no small measure on its ability to accomplish the reductions which are demanded by considerations of public utility. Now how great is its ability in this regard?

Clearly, if its action in the matter of rates were final and binding upon the companies, its power of lowering rates would be absolute. There would be no obstacle to prevent it from meeting in the most complete manner the requirements of the industrial situation. We have seen, however, that its rates are subject to review by the courts,



and the consequence of judicial review has been to seriously impair a commissioner's power to reduce rates. While it is impossible to measure with exactness the extent to which this power is impaired, it is possible to see that the limitation placed upon the commissions' activity in this particular is very great. And in order that this may clearly appear, let us consider at length three reasons why the doctrine of judicial review, as practically applied by the courts, stands in the way of public reduction of rates. These reasons may be stated as follows:

- I. The doctrine fixes an improper limit beyond which reduction of rates cannot be carried.
- II. The methods employed by the Supreme Court in determining the effect of rates on earnings are such as to make that effect seem more disastrous than is the fact.
- III. The principles recognized by the Court in determining reasonableness of income are unduly favorable to the railroads, and afford no adequate protection to the interests of the public.

These propositions we shall take up in order.

I. The first limitation upon the state's power to reduce rates is found in that part of the doctrine of judicial review which requires that rates shall be high enough to permit the railroad company to secure reasonable earnings. A state cannot lower rates so as to reduce earnings below that point without making adequate compensation to the company for all earnings, below the point of reasonableness, which are so taken. For to take any part of a railroad's "fair returns" is to deprive of property,—an act which, under the Fourteenth Amendment, must be accompanied with proper reimbursement.

This phase of the doctrine of judicial review is certainly subject to criticism, and the criticism touches a point so vital as to call in question the entire doctrine. The vulnerable point is the distinction made between

earnings above the point of reasonableness, and earnings below that point. In effect the Court declares that above that point earnings are not property; but below it they are property; for the state may freely appropriate earnings above that point without violating the constitutional provision protecting property, though to take any below that point is declared to be a violation of it. This distinction is ingenious, and in making it the Court has perhaps saved from annihilation the state's right of rate control, but whatever merit may be claimed for it on that account, it may be admitted that it is a distinction which is artificial and which cannot be supported by reason. For, if income from property is itself property at all, surely all income must be property. To divide income into two parts-"property" and "not-property"-giving one part the protection of the constitution, and leaving the other defenseless, is an extraordinary proceeding. No one has ever thought of making a similar division in the case of any other kind of property. If the state were condemning a person's lot, it would not divide the lot into two parts and say: "one of these parts is property, and for it you may have compensation; but the other is not property, and for it, therefore, no payment will be made." Such a proceeding is unheard of, even in the case of property belonging to a quasi-public corporation. It cannot be imagined that the state, in taking any such property, would divide it into two parts and say: "one of these parts is property, and for it compensation will be made, but no payment will be made for the other because it is not property, since you are a quasi-public corporation and, your property being devoted to a public use, a part of it has ceased to be property"! But the absurdity is more clearly seen when such a distinction is applied, not to real estate or equipment but to the income of railroads. Suppose the state were to seek in the treasury of a rail-

road company the earnings it had received from the operation of its road, and were to attempt to appropriate those earnings. There is not the least doubt that if the appropriation were permitted at all, the courts would require the state to reimburse the company for every cent of the earnings taken. The wildest stretch of the imagination cannot picture the courts saving to the state: "a part of these earnings are reasonable, and hence are property, and if you take them you must recompense the company; but the rest of the earnings are not property, because not reasonable, and you can have them for nothing." Yet this is just what the Supreme Court has said in regard to depriving a railroad of its income through the agency of low rates. The distinction is clearly without warrant and must be given a place among the pure fictions of the law.

It is evident from the absurdity of this distinction, which the Court has found it necessary to maintain in order to prevent judicial review from practically denying the established legislative power of rate control, that somewhere in the reasoning of the Court there is an error which is fundamental and which vitiates the whole process. That error, it is believed, consists in the actual, though not professed, transfer of rate regulation from the basis of the police power, where it has always been held to rest, to the basis of the eminent domain. continuing to insist in words that rate control is an exercise of the police power, the Court has in fact treated it as if it were a phase of the power of eminent domain. The Court has apparently looked upon it as a means whereby the state may take property (in the form of income) for public use, and has consequently subjected it to the ordinary rules of eminent domain, requiring just compensation for property appropriated. It is because of this change of base that the Court has been driven to the dilemma of holding either that all income is property, which practically denies the ancient legislative right of control, or else that none of it is property, and hence that all of it is beyond constitutional protection, which the judicial mind is unwilling to concede. this dilemma our jurists have extricated themselves by advancing the extraordinary idea that a part of income is property and a part is not. But they would have saved themselves from getting into the dilemma, and so would have spared themselves the necessity of resorting to this untenable fiction, had they actually continued to regard rate control in the light of their own repeated assertions, as a phase of the police power. For viewed as a part of the police power, rate regulation is, of course, not subject to the rules applying to the condemnation of property. It is the exercise of an entirely different sovereign power, subject to entirely different rules and restraints. If the court should really so regard it, there would be no question of appropriation or compensation to consider, no inquiry as to the effect of rates on earnings would have to be made, and hence no classification of income.

But, it may be objected, though rate regulation is a part of the police power, is it not true that in its exercise the income of the railroad may be decreased, which would amount to a deprivation of property, income being regarded as property? True;—from the control of rates many consequences may flow, and among other results, the income of a company may be reduced. But that is a consequence which also flows from other police regulations which the state may adopt. Railroad rate control is not peculiar in that regard. Yet no one thinks of subjecting other police regulations to the rules of eminent domain. Thus the legislature may pass laws requiring railroads to put in cattle guards at highway crossings, or to equip each passenger car with an ax, saw, and ham-



mer, or with drinking water, or to substitute, within a given time, automatic couplers of a certain type for the couplers in use. Any of these requirements would necessitate an expenditure of money and consequently would reduce the net income of the company by increasing expenses while the improvements were being installed. In effect, if one wishes to think of it in this way, it amounts to an appropriation of property for a public purpose. A portion of the income, instead of being devoted to paying operating expenses, or interest on bonds, or dividends on stock, must be expended in a manner required for the benefit of the public. Thus income is affected just as truly,-though in a somewhat different way—through these measures as through rate control. A railroad company may be deprived of income just as truly through police regulations requiring an expenditure of money for the public welfare, as though those requiring a reduction in rates.

Nevertheless a railroad company is not permitted to object to ordinary police regulations on the ground that its "reasonable income" is threatened. A case can be imagined where a railroad could show that its existing income was no more than reasonable, and where the courts would so hold. In such a case to enforce a law requiring the installation of new couplers or other equipment would so increase the expenses of the company that the income would no longer be reasonable. Its existing income being just barely a reasonable one, to require expenditures from it for the public good would be in effect to deprive the company of a part of its reasonable income. But could the company demand compensation for the sum so taken? Of course not. In passing upon police regulations a court does not consider their incidental effect on earnings. It makes no difference whether the road can earn a reasonable income under them or not.

A company in the last stages of insolvency is just as subject to them as the most prosperous of roads.³

In short the state is permitted through police regulation, to appropriate earnings for the public benefit without any obligation, under the Constitution, to provide compensation. But the police power differs from eminent domain in that the appropriation of property is not direct, but is incidental and resultant. The direct and immediate effect of a police regulation is always the establishment of some condition or method or other regulation which the public safety or welfare or comfort demands. And its indirect or consequent effect on income is not regarded as a deprivation of property such as is contemplated in the law of eminent domain. is no valid reason why an exception to this rule should be made in the case of that form of police regulation called rate control. It is a perfectly legitimate exercise of the police power and should certainly be treated in the same way as other police regulations,—at least it should not be subjected to more stringent restraints.

Two objections to this view of the case might conceivably be raised, neither of which, however, it is believed, is well taken. In the first place it may be said that there is a difference between rate control and other forms of

^a It should be noted that the validity of a police regulation is not a matter which is personal to certain individuals within the class affected, but rather is a quality of the regulation itself. A factory act applying to factories of a certain class is never valid as to some and void as to others. Its validity is determined on its own merits, irrespective of its financial effect on certain factories, and if it is held to be a valid exercise of the police power, it is binding on all the persons coming within its terms. Yet a general schedule of railroad rates may, under the present judicial doctrine, be held void as to one road but binding upon another, perhaps a competing line. This unfortunate consequence is, of course, a result of bringing into rate cases the rules of eminent domain, instead of judging rates on their merits, as a police measure designed to promote the public welfare.



police regulation, in that the latter are of real benefit to the company. The railroad is in possession of equipment which proves of decided advantage to it. For example, its automatic couplers and cattle guards decrease accidents, with their losses of property and subsequent damage suits, while passenger car equipment encourages patronage by the greater security and comfort offered to travelers. But two replies may be made to this objection. One is that public regulation of rates also is of advantage to the company. It does away with law suits to recover damages for overcharge, for a company is never guilty of extortion so long as it keeps within the maximum fixed by the state. Moreover, it tends to increase the popular favor in which the roads are held and to encourage traffic. The development of industry resulting from efficient public regulation is in itself of great advantage to the roads. But while this answer to the objection can be made, a better one, and one fully sufficient, is this: that the benefit which a police regulation confers on the road is not the reason why the courts do not subject the regulation to the law of eminent domain. The reason is simply that it is not an exercise of that power. The second possible objection is that a regulation of rates necessarily affects income; but that in the case of other police laws the company may recoup whatever expense is involved, by raising its rates and so increasing its earnings. The reply to this objection is that a company is not able thus to manipulate its earnings. It is at many points subject to competition, and so is not, commercially speaking, free to raise its rates. And an increase of rates at any point might simply have the effect of decreasing traffic, so that earnings would be but slightly increased, if at all. Moreover, it may be that the state has prescribed rates and they are in force, so that the company is without legal power to raise its rates,

and thus without the means wherewith even to try to recoup the expense forced upon it. Even here the attitude of the courts is just the same. A railroad cannot claim exemption from police regulations because it is unable to make up the expense through the manipulation of its rates.

We conclude, therefore, that since rate control is an exercise of the police power and not of the eminent domain, it should not be subjected to the law of eminent domain; that, accordingly the test of its validity should not be, as is now held by the courts, its effect on the income of the company.

Does this mean that the legislative power of rate control is absolute and without limit? No. It simply means that the legislature is subject to the same limitations that it is in exercising other forms of the police power. other words, the validity of rate control is to be determined just as the validity of other police regulations is determined. The same test that is applied to them should be applied to it. The question upon which the validity of a cattle-guard, or automatic coupler, or drinking water law hangs,-or, for that matter, a factory act, or sanitary legislation, or an inspection law-is whether a sufficient public interest demands the law. Upon that same question should the validity of rate regulation depend. It should be a question of public welfare. And therefore just as a court sometimes sets aside a police law because its enactment is not justified by the public advantage to be secured through its operation, so rates made by public authority might be set aside on the same grounds. But this is vastly different from saying that their effect on earnings should be the conclusive test in determining their validity.4

*Of course it is perfectly conceivable that the effect of rates on earnings might be *one* of the points considered by a court. It might be made a question whether the public interest demanded certain



If the view of the matter here suggested were to command acceptance, judicial review would be transformed. Instead of being what it now is, it would become a judicial investigation designed to apply to rate control the same test which is judicially applied to other police regulations. And beyond a doubt this would result in giving to legislatures and commissions much greater freedom of action in rate matters than they enjoy under the present doctrine. The full measure of their proper authority, of which they have been largely deprived by the courts, would be restored to them. And that it is their proper authority is made more evident by the following consideration. A state may, of course, and frequently does employ the police power to control private persons in matters of private concern. In such cases, as has been said, the regulation stands or falls according to whether the public interest, welfare, safety, health, morals, comfort, or, sometimes, even convenience, demand it. If that is the only limitation placed upon the legislature in its control of private persons in their management of private matters, surely no more stringent limitation should be placed on it in its regulation of the management of public business by quasi-public corporation. Indeed there is evidently much ground on which to contend that legislative authority should be even more extensive over public than over private business. would certainly seem that the government should have more control over property devoted to public use than over property retained for purely private use. It is not an immoderate suggestion, therefore, that the authority

rates, if they reduced income so much that bare operating expenses could not be paid, for in that case the road might have to suspend operation. But even if the effect of rates were so considered, the limitation on legislative action would be decidedly different from what it is at the present time.



in the first case should be barely equal with that in the second.

That a broader governmental power over rates would render more precarious the earnings from railroad properties is evident, but that, of course, is simply one of the hazards which one must contemplate in going beyond the boundaries of private enterprise, into the uncertain field of public activities. A forcible judicial expression of this idea may be found in the words of Mr. Justice Brewer, uttered obiter, in Cotting v. Kansas City Stock Yards Company.⁵ In entering a public business, said he, a person "expresses his willingness to do the work of the state, aware that the state in the discharge of its public duties is not guided solely by a question of profit. It may rightfully determine that the particular service is of such importance to the public that it may be conducted at a pecuniary loss, having in view a larger general interest. At any rate, it does not perform its services with the single idea of profit. Its thought is the general public welfare. . . . Is there not force in the suggestion that as the state may do the work without profit, if he voluntarily undertakes to act for the state he must submit to a like determination as to the paramount interests of the public?"

In this connection it is instructive to notice that in other ways persons embarking in a public business must assume the risk of losing much or even all of their investments. Such dangers exist,—have been permitted by the courts to exist even since the adoption of the Fourteenth Amendment. Thus, it has been held that a state may grant a franchise to one railroad to parallel an already existing road. The value of the older property may be impaired by competition with the new road, yet



⁶ 183 U. S. 93.

it is held that the owners have no vested rights which can prevent its construction and operation. So also the value of a turnpike may be practically annihilated by the state through a franchise permitting a parallel railroad. Yet it has been held that the Fourteenth Amendment does not command just compensation in any sense which would require the state to compensate the turnpike company for the property so taken.⁶ When the public welfare demands more efficient means of transportation, the owners of existing roads must expect to suffer; and the courts, aside from declining to relieve them, have not even claimed that any one but the legislature should be the final judge of the public necessity of the new improvement. A power such as this is one which properly belongs to the state to enable it to deal with property devoted to a public use in a manner conducive to the welfare of the community, and one of which the state has been deprived, so far as rate regulation is concerned by the doctrine of judicial review.

We thus conclude the discussion of our first reason why the doctrine of judicial review has seriously impaired the legislative power to reduce rates. It has fixed a limit beyond which reduction cannot be carried, and that limit is an improper one. By basing rate regulation on eminent domain rather than on the police power, it has prevented the legislatures and commissions from exercising the authority that is their right, and has thus subjected them to a serious restraint.

II. But this is not the only reason why the judicial doctrine has impaired the power of the state to reduce rates. The present judicial limit on legislative action is, as we have seen, the point of "reasonable income." But while the

⁶ For further illustrations see Cooley's Principles of Constitutional Law, 3rd ed., p. 370.

Court has repeatedly declared that this is the proper limit, it has, nevertheless, adopted principles and methods in the trial of rate cases which do not permit a state to fix rates so as to reduce income even to the point of reasonableness. In other words, the Court employs principles and methods which unduly favor the railroad and unduly restrict the state; and thus the legislature cannot exercise even the limited authority which the Court has in general terms allowed it. Rates may be made which will not actually reduce the income below the point of reasonableness, yet the Court may hold that they willso erroneous is the way in which it determines that point. In the further elucidation of this contention, let us consider the methods by which the Court determines the effect of rates on earnings. We shall see that those methods inevitably make that effect appear more favorable to the railroads than is really the case.

As we have already seen,⁷ the Court begins with the rule that the effect of rates upon earnings shall be determined on the basis of past business. That is, the judicial estimate of earning capacity of the road under the new rates is arrived at on the assumption that the rates will neither increase nor decrease the traffic, but that the traffic will remain the same that it was for a period of time prior to the establishment of the rates.

Extraordinary as this assumption is, it is one which, as we have seen from our review of the cases, the courts have repeatedly recognized as legitimate. It need hardly be said that in this matter the courts have failed to take into consideration one of the most fundamental characteristics of the railroad business. For it is a matter of general knowledge that, usually, a reduction in rates results in an increase of business. At this stage of the railroad controversy no argument is needed to prove this



⁷ Supra, p. 58.

contention, nothing beyond a mere appeal to those general facts of which all are cognizant. Curiously enough it was even admitted, with innocent frankness, by Mr. Carter, of counsel for the railroads in Smyth v. Ames. In arguing that there are sufficient protections against the danger of extortion, he said, "Moderate charges yield more profit by the greatly increased business they draw. A sound policy perfectly well known to railroad managers, advises them that it is better to tempt and draw out a large traffic by low prices than to try to make a large profit on a small business."

In spite of this universally accepted fact, however, the courts have definitely settled that the effect of lower rates may properly, for judicial purposes, be determined on the assumption that increase of business will not result from the decrease in rates. It must, of course, be admitted that compensating circumstances may occasionally prevent an increase in traffic, but such an occurrence is out of the ordinary. The rule remains that a reduction in rates, other conditions remaining the same, always tends to augment the volume of business. For the courts, then, to proceed upon the assumption which it does, is to unduly favor the railroads. It enables them to make a stronger case than they could were the correct assumption to be made. Upon this principle the judicial view must always. be that rates will more seriously affect the earnings of the companies than would be true in nineteen cases out of twenty. As a matter of fact, to put the rates in operation might not reduce either gross or net earnings at all. or might reduce them but slightly. Yet, in contemplation of the courts, earnings would be diminished exactly in proportion to the reduction in the rates.

Of course it may be urged that this is the only definite test which the courts can apply; that to attempt to esti-

¹⁶⁹ U. S. 506.

mate the probable increase in traffic resulting from a decrease in rates would involve the courts in speculations in which they could never have the guidance of reliable principles. Let this be granted as true; let it be conceded that the courts can find no other test. Nevertheless that fact does not make the test a good one, nor one adequate to the needs of rate cases, nor does it affect the fact that the test gives to the railroads an undue advantage as against the public.

No more favorable is the view which must be taken of the next step in the procedure of the Court. After declaring that the effect of rates upon earnings must be decided on the basis of past business, the Court goes on to hold that that effect must further be determined by applying to past earnings the percentage of reduction in the rates.¹⁰

If the effect of the new rates upon earnings were to be determined at all on the basis of past business, it would seem that the correct method of arriving at the result would be to apply freight rates to past tonnage, and passenger rates to past passenger traffic. This would give the maximum earnings which could be secured by the railroad under the new rates, on the condition, assumed by the courts, that traffic would continue unchanged. Instead of this method, however, the courts determine the percentage of reduction made by the new rates in the rates in force, and then assume that future earnings will equal past earnings reduced in the same proportion. For

"It is said that it cannot be determined in advance what the effect of the reduction of rates will be. Often times it increases business, and who can say that it will not in the present case so increase the volume of business as to make it remunerative, even more than at present? But speculations as to the future are not guides for judicial actions; courts determine rights upon existing facts."—Mr. Justice Brewer in Chicago, etc. Ry. Co. v. Dey, 35 Fed. Rep. 881.



¹⁹ Supra, p. 58.

example: Suppose that past earnings were \$1,000,000, and that the new rates are 80 per cent. of the old rates. It is assumed by the courts that earning capacity under the new rates will be \$800,000.

Now, here, again, is an assumption which gives the railroads a distinct advantage in suits involving rates. For the basis of the whole process is the reduction made by the new rates in the old schedules. Yet the old schedules, of course, contain only the nominal rates established by the railroad. As a matter of fact, in very many cases, the actual rates charged are lower than those named in the schedules. Discriminations, rebates, drawbacks, preferential advantages, all awarded, usually, under the veil of secrecy, are not yet, unfortunately, things of the past. The past earnings of the company, therefore, have been derived, not by charging the rates fixed in the schedules, but by charging rates which average considerably less than those scheduled. When the courts, then, compare the new rates with the old nominal ones, they discover a percentage of reduction greater than the percentage of reduction made by the new rates in the old actual The assumption, therefore, that the earning capacity of the road will be reduced in proportion to the greater percentage, is clearly wrong. It makes the company's criminal practices a source of advantage to it, and of disadvantage to the public, in the trial of rate cases.

For example, let us make the same assumption, made above, that past earnings were \$1,000,000, and that the new rates are 80 per cent. of the old nominal rates. In such a case the courts hold that the maximum earning capacity of the road under the new rates will be \$800,000.

Suppose that the nominal rate per mile was \$.01; the new rate is, then, \$.008. Now, it is evident, from the merest knowledge of railroad practices, that the earnings of \$1,000,000 were not secured by charging an average

of \$.01 for each of 1,000,000 ton miles. As a matter of fact, the actual average rate charged was less than \$.01. It might have been \$.009, or \$.008, or \$.007, or even less. But in order to deal generously with the railroad, let us assume for the moment that it was as high as \$.009. Then, the earnings of \$1,000,000 were secured by charging \$.009 for each of 111,111,111 ton miles. The actual traffic, therefore, being 111,111,111 ton miles, to put in force a rate of \$.008 would give an earning capacity of \$888,888.88. This indeed, is less than the former earnings, but, on the other hand, it is over \$88,000 greater than the earning capacity which the Court assumes the railroad would possess under an \$.008 rate.

Now let us alter our last assumption, and suppose that the actual average rate which earned the receipts of \$1,000,000, was low, say \$.007. Then the \$1,000,000 were earned by charging \$.007 for each of 142,857,142 ton miles. But to apply to that tonnage a rate of \$.008 would give an earning capacity of \$1,142,857. This is greater by \$142,857 than the old earnings, and is \$342,857 greater than the earning capacity reached by the processes of the Court.

Thus it appears that the earning capacity determined by the courts is always less than that which the railroad will actually possess under the new rates. Furthermore, it appears that the earning capacity of the road under the new rates, if it will abstain from discrimination, may even exceed the actual amount of earnings received under the old rates.

This practice of the courts, then, is always unfair to the new rates, since it makes out their effect upon earning capacity be to more disastrous than it will be, except in the purely hypothetical case of a road which has not deviated from its nominal rates. As an item in a test of reasonableness, it is, therefore, clearly inadequate, and



unduly favorable to the railroads. Under this practice, the more flagrant a company's violations are of the laws against discriminations, the more complete is its immunity from public regulation of its rates. In any event, a railroad is able to make out before the Court a stronger case than it has in fact.

True, in the Reagan cases, it was laid down that a railroad's right to profitable compensation is limited. inter alia, when it has indulged in "unjust discriminations resulting in general loss."11 Accordingly the way is opened for the state to attempt to prove the unjust discriminations of which the road has been guilty. satisfactory evidence upon such matters is, of course, almost impossible to get; and even were it secured, it is not certain to what extent and in what way the courts would make use of it. So far as the question of the effect of rates upon earning capacity is concerned, no fair or correct result can be secured by the method now employed by the courts. As said above, if past business is to be the basis of the calculation at all, the correct method would seem to be the application of the new rates to past tonnage, or past passenger traffic. Without discussing this point farther, however, it is sufficient for our present purposes to note that the method now employed by the Court may often result in the suspension of rates which, while looking toward the public welfare, are not really calculated to impair the earning capacity of the railroads, to say nothing of reducing it to the point of "reasonable returns."

III. Beyond this, however, it may be urged that the judicial conception of "reasonable income" is not adequate. At least it may fairly be said that the principles which the Court has laid down as the controlling considerations in determining reasonableness of income, have

¹¹ Supra, р. 74.

so far proven unduly favorable to the railroads, and have not, as yet, given proper expression to the interests of the public. Let us recall what these principles are. Briefly stated, the Court has held 12 that a railroad's earnings must be sufficient, in general, to pay all expenses, including interest on bonds, and yield a reasonable dividend upon stock, but that the reasonableness of the dividend, and, indeed, a railroad's right to any dividend at all, is dependent upon a large number of considerations. These considerations, we have also seen, may be grouped into four classes—one pertaining to the base upon which the rate of profit shall be reckoned, the second to the management of the road, another to the rights of the public, and the fourth to the industrial condition of the community.18 The enunciation of these limitations upon a railroad's right to compensation is a most interesting feature of rate cases. At first blush it might seem that they are admirably calculated to aid in restoring the proper balance between the public and private interests. Yet it cannot escape observation that almost all of them are simply obiter dicta, and investigation shows that the Court has often forgotten them, either in determining procedure or in deciding special cases.

A few instances of this kind will serve both to explain and to enforce the point. In the Reagan cases is laid down the doctrine that the failure of rates to yield profitable compensation is not conclusive of reasonableness when, inter alia, the railroad has indulged in unjust discriminations resulting in general loss. And yet, as has just been seen, the Court has employed a method of determining the effect of new rates, which enables a railroad to take refuge under the very shelter of its own discriminations, and from that safe retreat, protected by



²² Supra, p. 70.

¹⁸ Supra, p. 72.

the strong bulwark of the law, to defy legislatures and commissions. Again, the Reagan cases also recognized a limitation when a road was unwisely built, in districts where there is not sufficient business to sustain a road. Yet such was the case with almost all, if not all, of the roads involved in those very cases. The International and Great Northern had never been able to pay the interest on its bonds, and had been in a receiver's hands for three vears. Of two other roads the Court speaks as follows:

"The St. Louis Southwestern Railway Company is called by counsel for defendants, in their brief, 'a reorganized bankrupt concern.' It would seem to be a railroad which was unwisely built, and one whose operating expenses have always exceeded its earnings. Counsel say that 'it is familiarly known as a "teazer," and, if it ever passes beyond this interesting but unprofitable stage, even its friends will be surprised.' We are not advised and we can hardly be expected to take judicial notice of what is meant by the term "teazer," but it is clearly disclosed by the record that this was an unprofitable road. . . . The Tyler Southwestern Railway Company has a short road of ninety miles, and also appears to be a 'reorganized bankrupt concern,' and one whose road has been operated with constant loss." 14

Here are cases which clearly, by the admission of the Court, come under the general limitation expressed in the body of the opinion. Yet the limitation was entirely ignored. After making the statement quoted above, the Court continued, "it will not do to hold that, because the roads have been operating in the past at a loss to the owners, it is just and reasonable to so reduce the rates as to increase the amount of that loss." Here, then, one who has read, a few pages back in the opinion, the general rule laid down by the Court, finds the hopes aroused by it most rudely dashed.

Further evidence may be found of the Court's tendency

¹⁵⁴ U. S. 403.

to ignore the limitations upon a railroad's right to profitable rates. It is worth while mentioning that the Court in the Reagan cases specifically denied two claims which were allowed in general terms in later cases. The Covington case limits the railroad's right when competition of parallel lines so diminishes business as to make profitable rates exorbitant, and the last Minnesota case further limits that right when the industrial condition of the country is such that profitable rates would be exorbitant. Yet in the Reagan cases the Attorney-General showed that there were four lines in competition with the International and Great Northern, reducing its share of the traffic; alleged that there had recently been a commercial depression; and offered evidence to show that the price of products was so low that rates would have to be lower than those charged by the railroads in order to permit the farmers to market their produce with any profit. this was not gladly received by the Court, as tending to support the rates which are "presumed to be reasonable." On the other hand it was summarily dismissed, and given no weight whatever in the case. We are accordingly left in grave doubt as to whether the court meant much if anything by its later dicta in the Covington and the last Minnesota cases. At any rate, it is evident that the play of the Court's sympathy for individual as opposed to public rights, operates to seriously limit the limitations, as it were, which it has recognized upon the rights of the railroads. The view of the railroad industry which has been taken by the Court since the Granger cases requires the limitations to be stated; but the predilections of the judges create a tendency to disregard them. As statesmen, or publicists, the judges might recognize the full force and importance of those limitations; but as lawyers or judges. they almost inevitably forget them.

It is true that as yet the Court has not been put to a

severe test, and consequently it is not clear to just what extent it will go. For, up to the present time, counsel for the states have shown comparatively slight disposition to urge upon the Court the limitations it has recognized, or to introduce evidence in such matters. The Court by its repeated declaration and affirmation of its dicta, has offered an opportunity the significance of which has apparently not been fully appreciated by the representatives of the public. But the treatment which those dicta have received in the cases where they have been urged, as we have just seen, forbids any very sanguine hope that they hold much promise of better things for public control.

But it is not only because the Court tends to ignore in special cases the rules it has laid down in general terms, that they are not available for the cause of the public welfare. A further reason is that many of the limitations upon the rights of the railroads are so vague in character. and involve considerations so difficult to establish, that the public can derive little advantage from them. One illustration of this fact is to be found in the limitation which is recognized to exist when the management of the road has not been prudent and honest. But how difficult must it always be for state officers to secure satisfactory evidence upon such a point! The secrecy which enshrouds many railroad operations, and the possibility of manipulating accounts makes difficult even the discovery of imprudence and dishonesty, to say nothing of securing evidence which will be satisfactory at law.

Again, the courts have, in general terms, given recognition to the rights of the public. In the Gill case the Court was hesitant to declare rates unreasonable when, among other things, the claims of the railroad were admitted in the demurrer of a party who in no adequate sense represented the public. In the Reagan

cases it was said that the right of the road to compensation is limited, among other things, by "matters affecting the rights of the community in which the road is built."15 And in the Covington and Smyth cases, it was stated that the rights of the public are not to be ignored, that rates must not be more than the services are worth to the public, that, in short, rates must be just to the public as well as to the railroad. 16 But what are the "rights of the community," or the "rights of the public," and how are they to be established? How is it to be determined what a railroad's services are worth to the public? How, indeed, is it to be discovered what rate is just to the public as well as to the railroad? And, when the interests of the public and of the railroad clash, which is to prevail? It need hardly be stated, in view of the preceding discussion, what the coloring is which must necessarily prevail in the Court's answers to these questions. The rights of the public are indeed difficult to establish. Generally speaking, the public has rights, which must not be invaded by the railroads. But specifically, what rights? To be exempt from the high rates necessary to compensate a railroad for losses due to its discriminations, or necessary to make profitable a road unwisely built, or necessary to sustain as many competing roads as may chance to divide the traffic? We have seen what answers the Court has given to these questions. The vague "rights" of the public have vanished with the appearance of a practical test.

But there is still another "limitation" upon the right of the railroad to compensation, namely, the industrial condition of the community, which is too vague and general to mean much in practice. Here again, it may be asked, how is the industrial condition of the community

¹⁵⁴ U. S. 402.

¹⁶ 164 U. S. 596-8; 169 U. S. 544-7. And see also, 173 U. S. 754-6.

to be established at law, and just what "industrial condition" will justify a reduction of a road's earning capacity? Is it not inevitable that counsel for the state should find it difficult to secure satisfactory evidence in such a matter? The limitation is in general terms. In specific cases how much would it amount to? Probably not much. The only points ever argued by the states, have, as we have already seen, ¹⁷ been summarily rejected by the Court.

The fact unfortunately seems to be that the euphonious generalities in which the Court has bound up the industrial welfare of the American commonwealths are more beautiful for contemplation than they are efficacious in use. To discover the practical meaning which is embodied in them, and to obtain recognition of it by the courts, is one of the difficult problems which now confronts the commissions, and one in the performance of which the attitude of the judiciary up to the present time gives little encouragement.

In these three ways, then—by placing an improper limitation on the legislative power to reduce earnings through regulation of rates, by employing erroneous methods in determining the effect of rates on earnings, and by setting up inadequate standards of reasonableness in earnings—has the Court practically destroyed the state's power of rate reduction. The doctrine of judicial review is therefore of great importance in the development of the railroad problem. But, more than that, it is of significance as a notable triumph achieved by the principle of individual interest over that of the public welfare. Under whatever constitutional pressure the courts may have been in announcing the doctrine, it is felt that it is a movement against the current of the times, and that it must result, in part, in deepening the conviction already

¹⁷ Supra. p. 106.

growing in the minds of men, that the proper balance between the public and the private interests in industrial action has been much disturbed, and should be speedily restored.

CHAPTER VI.

The Results of the Doctrine.—II.

The course of our investigation as outlined at the beginning of the last chapter now leads us to consider the effect of the doctrine of judicial review upon the ability of a commission to enforce its rates. The conclusion that will be reached is, indeed, suggested by the discussion in the last chapter, but nevertheless deserves separate statement and elucidation. It may be said, therefore, that as a consequence of the application of the doctrine of judicial review no little restraint is placed upon the enforcement of rates by public agencies. A ready mode of escape has been provided for the railroads, and one of which they have not been slow to avail themselves. The power of the state to make its rates effective has been very seriously impaired.

The reasons for this fact are two in number: first, that rates made by public authority may be immediately suspended by injunction; and second, that the suspension of rates for a few roads may and usually does permit the escape of all the other roads in the state. These statements both demand explanation, but as the second can be disposed of somewhat briefly, it will be considered first.

The effect of injunction suits brought by a few roads in a state extends far beyond the interests of those roads, for such suits are usually sufficient to settle the matter for all the other roads in the state. If a few companies secure injunctions, the others may safely ignore the rates. There are many reasons why this is so. After losing a number of cases under its rates, the commission will

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hardly dare to attempt an enforcement against the remaining roads; knowing that, even should it do so, the chances are that the rates will also be held unconstitutional as to them. Moreover its inclination to bring suit for enforcement is weakened, not only by the prospect of defeat, but by the fact that the final result may be so long postponed that even should it be favorable, the commission will perhaps no longer care to enforce the rates, because of changed conditions in industry. powerful consideration, however, is, that public policy would no doubt forbid that a comprehensive schedule of rates designed for all or many of the roads in the state should be enforced against only a part of them. And a further fact of no little practical importance is that the commission may lack the financial means to prosecute so many suits through so many Courts.1 For all these reasons it is evident that judicial review may permit many roads to escape the operation of a commission's rates without even submitting their cases to the courts. tremendous significance of this fact itself furnishes the emphasis to which the fact is entitled.

But while this is clearly true, exception may perhaps be taken to the first statement,—that a commission's power of enforcing rates is impaired by judicial review because rates may be immediately suspended by injunction. To this it may be objected with apparent justice that the courts will not suspend any and every rate submitted to them, but that only such rates as, after judicial

"The trial of the St. Paul case so completely occupied the time of the commission and their attorneys, and exhausted the meagre appropriation for the expense of litigation it has been impossible to proceed with the cases of other railroad companies. . . . The funds appropriated for litigation expenses, together with about \$1,561.27 which had been provided from private sources, had been expended in the trial of the St. Paul case." Report of Railroad Commissioners of South Dakota for 1898, pp. 18, 19.



inquiry, are found to be unreasonable will be subjected to equitable restraint. And it may be added with still greater show of justice, the unreasonable rates ought to be suspended.

This is a contention which on its face seems plausible enough, but which is nevertheless not sound. The discussion of the last chapter in part discloses its weakness. Manifestly the force of the contention must depend upon the meaning given to the word "unreasonable." If it is true that the judicial standards and tests of reasonableness are proper and adequate then it follows that the suspension of rates is wholly justifiable. But if, on the other hand, those standards and tests are erroneous, then it follows that the suspension of rates may sometimes be wrong, and may be an unjust restraint upon the power of the state.

Now are the judicial standards and tests of reasonableness wholly commendable? We have tried to show in the preceding chapter that they are not. The Supreme Court has read into the Fourteenth Amendment a meaning which has resulted in an improper limitation being placed on the reduction of rates by a state,—in the requirement that rates must always yield a reasonable income. But even if it be conceded that the limitation is entirely fair and just, the fact still remains that rates which keep within the limit are not always enforced, but that, on the contrary, many of them may be declared invalid and may be suspended by the courts. of course, results from the methods and principles laid down by the Supreme Court for use in rate cases. have seen that the methods of the Court are such that it must always determine that the effect of rates on earnings will be much more disastrous than will in fact be the case. Thus many rates may be suspended which are really calculated to yield all the revenue required by the

Court. Such rates a commission cannot enforce. But, moreover, we have also seen that the principles upon which reasonableness of income is determined are such as unduly to favor the railroad and give no adequate expression to the public interest. Thus, under the doctrine of judicial review, many other rates may be suspended which, while not yielding all of the earnings demanded by the Court, are nevertheless calculated to afford what should *properly* be regarded as a reasonable income to the railroad companies. Such rates, also, a commission cannot enforce.

But this is not all. We may go farther and say that not only may inherently "reasonable" rates be suspended because of the inadequate methods of the courts, but that many rates which conform perfectly to judicial standards may also be suspended. This somewhat startling statement is explained by the familiar fact that the courts regularly issue temporary injunctions in rate cases on a merely prima facial showing—that is, without being convinced or, indeed, without having evidence to convince them, that the rates ought to be declared invalid.

It is not proposed to suggest a sweeping condemnation of the temporary injunction. Its use, in general, is undoubtedly desirable. It serves to preserve intact the rights of the parties to a suit until a complete investigation can be made. All that is contended here is that there are sufficient reasons why the use of the temporary injunction in rate cases cannot be approved. At least three such reasons suggest themselves.

1. The temporary injunction is inappropriate in rate cases because rates made by public authority are acts of legislation. They are statutes, whether made by the legislature or by a commission under a delegated legislative power. But it is a fundamental rule of Constitutional Law that all statutes are presumed to be constitu-



tional, and will be so held until the contrary is shown beyond all reasonable doubt. "To be in doubt is to be resolved, and the resolution must support the law." 2 That this rule applies to railroad rates there can be no doubt, for the fact has been repeatedly declared by the Court. Yet one cannot fail to observe the inconsistency between this rule and the use of the temporary injunction. In one breath the Court declares that the unconstitutionality of rates should not be determined in a prima facie case; yet in the next breath it decrees a writ of injunction, involving the determination of their constitutionality upon a merely prima facie showing. The judge has not a "clear and strong conviction" of their invalidity. On the contrary he does not know whether the rates are constitutional or not, for a merely prima facie showing has been made. He is always "in doubt"; otherwise he would decree a perpetual rather than a temporary injunction. But being in doubt, he ought to be resolved that the rates are valid; and therefore he ought to refuse to issue a restraining order until the case has been fully tried and his doubt is removed. The use of the temporary injunction, then, is in direct conflict with the fundamental rule of law which is designed to guard the deliberate judgment of the legislature from ill-considered interference by the judiciary.

2. A second reason for believing that the temporary injunction cannot properly be granted in rate cases is to be found is the nature of the interests involved. A rate case in a controversy between the public and a corporation chartered for a public purpose. It is true that in such a case the railroad may be threatened with injury for which there is no adequate remedy at law—a situation which ordinarily furnishes ground for equitable interference. But with this fact should also be weighed

²Cooley: Const. Law, 3rd Ed., p. 172.

the important consideration that the railroad is a quasi public concern, and that because of that fact it owes to the public certain duties which the public is entitled to exact of it. The case is different from most of the instances in which injunctions are sought, the significant characteristic being the public nature of the obligation owed by the railroad. Is not this a characteristic which should control a court in the exercise of its equity jurisdiction? Even admitting that the granting of a perpetual injunction after full hearing is a proper method of procedure, it is hard to agree that public control of a quasi public corporation should be thwarted by a writ issued upon only probable cause. Is the public interest in railroads so slight that it should be defeated by a merely prima facie showing? Or, to put the converse, is the private interest of the railroad company so great that a merely probable case is sufficient to exempt it from public control?

3. A third reason for condemning the use of temporary injunctions in rate cases is the fact that when the courts have once recognized that the company is entitled to relief from the rates until a final hearing has been had, the "temporary" suspension of rates becomes for all practical purposes permanent. For after the suit has been disposed of in the trial court, at least one court of appeal remains, and in that the temporary injunction may be continued. An apt illustration of the abiding nature of the temporary may be found in the case of Chicago, Milwaukee, and St. Paul Ry. Co. v. Tompkins, the history of which is as follows:

On August 26, 1897, the South Dakota Railroad Commission promulgated a schedule of rates to take effect on September 15, 1897. The day after the announcement of the rates several companies brought suit in the United

¹⁷⁶ U. S. 167.

States Circuit Court, and secured an order, returnable on September 6, to show cause why a temporary injunction should not be granted. The Commission appeared and resisted the application, but the injunction was nevertheless granted. On July 7, 1898, the court decided the case in favor of the Commission and refused to issue a perpetual injunction. But the St. Paul road promptly perfected an appeal to the Supreme Court, which immediately ordered the temporary infunction continued pending the final decision of the case. In other words, the original presumption that the rates were valid, supported, as it was, by the decision of the circuit court affirming their validity, was not enough to save them from "temporary" suspension by the Supreme Court. About two years later the latter court remanded the case with instructions —the rates being still "temporarily" suspended,—and at last in August, 1901, the trial court rendered the final decree.4 Thus had the rates been "temporarily" suspended for almost four years.

The lesson of this case need hardly be suggested. The theory that a prima facie showing is sufficient to warrant a temporary injunction, coupled with the theory that a railroad company may make such showing even against the decision of a trial court as well as the inherent presumption that rates are valid, practically annihilates all possibility of rate enforcement. For a rate to be suspended for four years—it matters not that the suspension is "temporary"—is to destroy practically all possibility of its usefulness. In these days of changing industrial conditions it is seldom true that rates made to suit the needs of the times four years ago are applicable to conditions of to-day.

But this is not all that may be said as to the power of a

⁶C. M. and St. P. Ry. Co. v. Smith, 110 Fed. Rep. 473. The final decision was in favor of the railroad. See Supra, p. 112, footnote.

commission to enforce its rates. Not only may the rail-roads secure the suspension, "temporary," if not permanent, of practically every rate at all inimical to their interests: —under the practice of judicial review they are much encouraged and strongly tempted to contest such rates in court. The reason for this incentive to seek judicial shelter are numerous, but only a few can be mentioned.

In the first place it is obvious that they are impelled to litigation through a realization of the fact that their chances of success are excellent. As we have seen, it is easy for a railroad to establish its case; it is difficult for a state to establish its case. For the former has the significant advantages of a tribunal which is professionally sympathetic to it, of the protection of a Constitutional provision which has been interpreted as fixing a close limit to state action, and of principles and methods used in the interpretation and enforcement of that provision which are exceedingly favorable to the corporate interests. And no one knows so well as the railroad counsel. how favorable those methods and principles are to them. Added to the probability of ultimate success, however, is the fact that "temporary" relief can be secured in the case of practically any rates which the companies would care to contest, and that this temporary relief may be extended over a considerable period of time. All that a company has to do (practically speaking) is to keep a case in the courts, in order to be legally exempt from the rates.

Another motive impelling a railroad to bring suit is to be found in the fact that the suit may operate to force a compromise. Fearing the outcome of the action, and



⁶ An exception to this statement may, under the Minneapolis and St. Louis Case, be found in the instance of special rates made for isolated commodities. As to general schedules it holds true.

the ultimate failure of all its work, a commission may be induced by a suit or even the threat of a suit to propose or accept an increase in its rates. But compromised rates are never thoroughly satisfactory to any one but the railroad: they are satisfactory to the road, for otherwise it would reject the compromise and carry the case through; but they cannot be wholly satisfactory to the rest of the community, for, being compromised they cannot be specially adapted to the public needs. This evil is all too common, and seriously impairs a commission's power to enforce its rates.

Still another motive which may inspire a road to sue for an injunction, is that one result of a suit must be to tie the commission's hands so long as the case is in the courts. Let a commission promulgate a schedule of rates,—the road, by simply taking a case through the courts, practically prevents the board from taking any other action as to rates during the three or four or five years in which the case is dragging from one tribunal to another. It means just so many years of immunity from public regulation.

A final reason which impels a road to resort to judicial adjudication of the rates, is a desire to reap the advantages which come with a triumph over the commission. The very facts that the courts stand ready to test the reasonableness of a commission's rates, opens to the railroads a means of discouraging the commission and perhaps of bringing it into disrepute. Of course, no commission establishes rates without allowing the railroads a full opportunity to be heard and to introduce evidence. Often the rates are fixed as the result of a complaint brought by some shipper or locality and in such cases the roads are summoned to appear in answer to the complaint. The roads realize, however, that if the commission's ruling goes against them, they have recourse to the courts; they

know, moreover, that the courts are favorably disposed to them—much more so than the commission. ingly it is to their interests to have the case tried by the courts rather than the commission. They therefore have a strong motive for making only a perfunctory showing before the commission, concealing the real strength of their case. When the commission rules against them, however, and they appeal to a court, they open their case with full force, and make their best showing. The public's case is an old story to them, for it has come out very fully in the proceedings before the commission, and they have had time to work up a defense to it. Their own case, however, is new to the public officers. For this as well as other reasons the suit goes in their favor, the injunction is granted, and the commission is defeated, perhaps discouraged, and discredited. It may be that, had the commission been in possession of all the evidence introduced in court, it would never have made the rates But, in any case, so much has it been which it did. hindered and crippled by the right of judicial review.

But it may be said in reply that the temptation to bring suit must always be weakened by the consideration that indiscriminate litigation must result in occasional defeats for the railroads, which will tend to arouse popular feeling and create a prejudice in the courts against the railroads. Unfortunately there seems to be little strength in this contention. From what has already been said it is evident that defeats for the roads must be very occasional. But even should they be fairly frequent it is hardly probable that the roads would be damaged by such prejudice as would be aroused. So far as the public is concerned probably the only feeling would be one of gratification at the defeat of the railroads. And so far as the judiciary is concerned, it cannot be imagined that our federal judges could be turned by feeling or prejudice from the path of legal justice.



Judicial review has, then, practically destroyed a commission's power to enforce its rates, both because of the incentive given to the railroads to contest the rates and because of the treatment accorded them in the courts. Do serious consequences flow from this loss of power? Inevitably so. Some of them deserve special mention.

- 1. One consequence is that a commission cannot adapt its rates to changing industrial conditions. course, in itself would be well-nigh fatal to its efficiency. Our modern industrial community is far from static; conditions change from time to time, sometimes gradually, sometimes suddenly. And since transportation is a factor lying at the very basis of all other industry, it follows that transportation rates should be adjusted to meet the needs of business. It was chiefly for this reason that the policy of legislative rates was early aband-It was found that a schedule of rates made by a legislature would, at many points, get out of accord with industrial conditions before its next session, after a lapse. in most states, of two years. Accordingly the making of rates was delegated to a commission which, being in continual session, could make such prompt adjustments in rates as might appear to be necessary. But the doctrine of judicial review has rendered the expedient futile. A commission may make rates, it is true, but the immediate enforcement of them, which is a prime desideratum in public control, is an impossibility. At least temporary suspension is practically inevitable, whether the rates are fair or not, and we have learned what "temporary" means. Thus does judicial review prevent a commission from fulfilling a supremely important object of its existence.
- 2. Another consequence of a commission's inability to enforce its rates is that the evil of instability in rates is enhanced. We have already had occasion to mention this

evil. 6 and to say that the public welfare demands that railroad rates should be stable, except when they are bona fide altered to meet changing industrial conditions. might seem that public control of railroads, and especially control through a regulative commission, would offer exemption from unstable rates. And indeed there can be no doubt that commissions, if able to enforce their rates, could in a reasonably satisfactory manner accomplish this object. But if conditions were bad when roads could make and unmake rates at their pleasure, they are worse in a system of public control which struggles under the burden of judicial review, where, in the main, the railroads still fix the rates, but where the intervention of a commission occasionally works changes, and where. moreover, the commission's rates may be carried to the courts and made the subject of almost endless litigation. -leaving both carrier and shipper in doubt as to their legality. Nor should it be forgotten that during the long period of litigation, the railroads are practically free to manipulate rates at their pleasure. Thus is the situation complicated and the evil of instability rendered greater than it would be had no commissions ever been appointed. and such is the way in which judicial review has affected the power of a commission to discharge this important phase of its duty.

3. In the third place, as a consequence of the loss of power both to reduce and to enforce rates, the commissions have become unable to make rates on the principle of public utility. The railroad rate problem is more than a mere matter of the correction of specific abuses. Such work is valuable, of course, but it touches merely on the borders of the problem. The heart of the matter is the promotion of the public welfare by such a regulation of

Supra, p. 9.

rates as will provide the conditions for a healthy and vigorous and well-proportioned industrial life. Rates should be adjusted among commodities and among localities with reference to sources of raw materials, centers of manufacturing, location of markets, and so forth, the aim being to produce the highest degree of industrial well-being. Railroad rate-making offers a powerful engine for the public good, and the rate problem will not be solved until that engine is used to its best advantage. But it is painfully evident that the commissions, limited and restrained as the now are, find themselves utterly unable even to approach this broader and more significant phase of the problem set before them. And herein do we find one of the most melancholy consequences of judicial review.

We have now considered the effect of the doctrine of judicial review upon a commission's power to reduce rates and its power to enforce its rates. It will serve to illumine and enforce the conclusions which have been reached, to quote from a letter received by the author from one of the youngest and most vigorous of the state commissions:

"In answer to your question, 'To what extent and in what way, has this power of judicial review been a source of embarrassment to you, as railroad commissioners, in the exercise of your power to fix rates?' beg to say that this power to review the rates made by a railroad commission, assumed by the Courts, has been the source of some embarrassment to this Commission, as it has to almost all State Commissions. In the the State Courts we have had to compromise two suits, rather than allow them to go to trial, fearing the final decision of the Court would be delayed to such an extent as to render the order fixing rates useless, or else fearful of a perpetual injunction's being granted, estopping this Commission from future action. . . . Unquestionably, the effect of such decisions makes a Railroad Commission extremely cautious as to

the rates which it establishes, and certainly is a barrier in the way of their making many rates which in their minds are reasonable, just, and necessary. I may say, however, that with the exceptions noted, this Commission has been remarkably free from litigation over its orders, and has not suffered to a great extent from Court decisions. The suggested trend of the decisions has, though, put the Commission on its guard, thus rendering its work less efficient than it might be, were these apparent difficulties of judicial interference removed."

But what now, to proceed to the last step in our inquiry, has been the consequence of this deprivation of power both to make and enforce rates, upon the attitude of the commissions toward the problems which have been given to them to solve? What has been the effect of judicial review upon the spirit and ideas of the commissions? While it cannot be said of all of the state commissions, as to a large majority of them it is a fact that the gradual growth of the doctrine of judicial review. and the gradual development of the methods employed by the courts, have gradually paralyzed the commissions by destroying their will as well as their power. Under the burden of judicial review the commissions have become discouraged from the task of rate regulation; most of them pay relatively slight attention to the matter of rates, confining themselves largely to the other and much less important duties imposed upon them. Some have practically desisted from rate making. Some esteem their duty done when they attempt to arbitrate the few cases, between carrier and shipper, which are brought to their attention, but which form only a microscopical part of the great question of rates. This relaxation of effect, this growing indifference to the most important of all their functions, has been conspicuous in recent years,7 and

'Though somewhat less so within the last year or two, since President Roosevelt began to rekindle popular interest in the rate problem.



is a discouraging feature of the railroad problem of to-day.

But a far more disheartening fact is that some commissions have come to the point where, forgetting the real nature and the real necessities of public control, they consciously or unconsciously adopt the theories of the courts. Respect for the law as pronounced by the courts. aided by the presence of an excessive number of lawvers upon the Commissions has no doubt gone far to accelerate the growth of the conviction that, after all, the principles and methods of the courts must be just and wise and beneficent. How far that is true we may judge from the discussion in this and the preceding chapter. But the result of this conviction has been that insofar as such commissions attempt to fix rates at all, they for the most part adapt them for review by the courts. Some of them say they welcome review by the courts, believing that such review is salutary, and that they would not wish to enforce a rate which, according to judicial standards, is unjust. Thus they make their rates according to judicial methods, practically ignoring the real public interests involved, making no effort to remedy the serious difficulties of their situation, and all this they do with the impression, more or less sincere, that it is right.

Of no commissions does this seem to be so true as of the older ones. Said one of these in writing to the author:

"It is provided by law that the rates promulgated by this Board are only prima facie evidence in the courts of this state as to what reasonable rates should be. The Board has not felt that this provision of law has been a hardship upon the shippers of the state, but rather a safeguard preventing unreasonable exercise of the rate making power. The Commissioners have never had any hesitancy in fixing a rate which they believed reasonable, and since the great cases of 1888 and 1889 there have

been no contests in this state involving the reasonableness of the Commission's schedule or amendments made thereto from time to time. Of course, future events may change the opinions expressed in this matter, but from the experience of this Board up to the present time, the Commissioners could hardly suggest any change in the conditions in this state that would be more equitable and just to all interests involved."

A more astonishing statement, however, was received from a commission which a number of years ago was most vigorously contesting the doctrine of judicial review. One sentence of its letter reads:

"This Commission rather invites a review of their work by the Courts, and we do not feel that it in any way embarrasses us or causes us to hesitate in making an order fixing what we deem to be reasonable rates."

And the closing sentence of the letter is almost pathetic in its ingenuousness:

"The length of time required to get a final decision in matters of this kind is the only feature of the law that causes any embarrassment."

Thus has judicial review not only fettered the hands of the commission: it has tended to destroy their will as well. It has, moreover, in many quarters corrupted the very idea of public control, perverting the views and distorting the vision of those upon whose soundness of judgment and keenness of insight the public is relying for its protection and welfare.

It is desired, in concluding this branch of the subject. to make a practical application of the general ideas involved in judicial review to the attitude which railroad companies habitually assume toward proposals for rate control. All movements in Congress to endow the Interstate Commerce Commission with power to regulate rates have been vigorously resisted by the railroad lobby, which has never been more strenuous in its opposition than it is at the present time. So also the introduction

of a bill providing for rate control in any state legislature —as in Wiscinsin during the recent legislative session has always been a signal for sturdy and stubborn resistance on the part of the companies. Now how is this conduct to be explained? In view of the guarantee which iudicial review offers the railroads, that rates must always vield a reasonable income, and especially in view of the definition which the courts have given to the term reasonable, and of the judicial methods employed in rate cases a definition and methods exceedingly favorable to the corporate interests—what possible interpretation can be placed on the railroads' conduct except this: that it is a confession that rates are now unreasonably high—unreasonably high even according to judicial standards of reasonableness-and that, moreover, the companies desire to maintain them where they are? What else can explain the determined opposition of the roads? If rates are now reasonable, and if the railroads intend to maintain them on a reasonable basis, surely they have nothing to fear from governmental regulation. If their schedules are fair, even according to the liberal theories of the courts. the government cannot touch them. Why, then, this resistance?

It may, indeed, be pointed out that the corporate opposition is always directed with special force against a provision often inserted in rate laws to the effect that the rates shall be in full force and effect pending a review by the courts. Under such a provision, it may be claimed the roads, even if they could ultimately prove the unreasonableness of the commission's rates, would have to suffer the loss due to operating the rates while the suit was in the courts. But the discussion offered above shows clearly enough that there is no force in this contention. The railroads have nothing to fear from a statutory provision of this sort. For in rate cases they repose on their

constitutional rights, and to these rights statutes must always yield. Under the Constitution their property cannot be taken by the public without just compensation; consequently rates so low as to deprive of property are, in the absence of compensation, invalid. But now the courts have held that a railroad is entitled to immediate relief. by injunction, from rates which seem calculated to deprive of property, for,—such is the judicial argument were it to be compelled to operate the rates pending judicial investigation, it would have no adequate remedy at law for the injury it had suffered, should the rates finally be found to be unreasonably low. Beyond a doubt the right of the road to equitable relief is fully established. For a legislature, therefore, to enact that rates shall be in force until found invalid by the courts, is an attempt to deprive the railroad of its constitutional right, and such an enactment must consequently be unconstitutional. the only effective means of enforcing a constitutional right is through a suit for immediate suspension of rates. a statute forbidding immediate suspension must certainly be a denial of the right, and hence must be repugnant to the Constitution. Accordingly the federal courts have never hesitated to grant injunctions even when the state statutes provided that rates should be effective pending judicial review, and there is no reason to doubt that the same policy would be pursued in regard to federal legislation, should occasion arise. Under the law as it now stands, therefore, the railroads have no reason to fear a Congressional enactment of the kind under discussion.

From all of which we conclude that under the doctrine of judicial review a railroad cannot be compelled to operate, either temporarily or permanently, a rate which does not conform to judicial standards of fairness, standards which, we repeat, tend decidedly to the advantage of the railroads as against the public. What else, then, can



railroad opposition to the creation of rate-making commissions mean, other than an admission of a desire to charge unreasonably high rates, or a denial of the obligations which railroads owe to the public?

CHAPTER VII.

REMEDIES.

Our study so far has attempted to disclose the nature of judicial review, and its effect upon the efficiency of railroad rate control. It remains now to inquire what means may be suggested to overcome the difficulties which the doctrine has raised. Those difficulties, as has been shown, are chiefly two—the inability of a commission to reduce rates, and its lack of power to enforce them. Accordingly this chapter will consider three classes of expedients—those suggested to relieve both difficulties, those designed to permit greater freedom in reducing rates, and those proposed to make enforcement possible.

I. First, then, as to suggestions for correcting both of the difficulties. Perhaps the most obvious measure is a constitutional amendment. Conceivably a provision might be added to the Constitution which would affect the Fifth and Fourteenth Amendments insofar as their relation to railroad control is concerned, and this could doubtless be so framed as to restore to the legislative department of government the power which it possessed under the decision in Munn v. Illinois. The exact form which such an amendment should take, however, it would be fruitless to consider at the present time, for the project is without a shred of feasibility. A constitutional amendment is a modern miracle, and it would be folly to rely upon it. The suggestion may therefore be dismissed with mere mention.

It will be observed that the above plan is designed to remove from the railroad the protection of the Constitu-

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tional amendments. A further plan, however, may be suggested which, while according to the roads the full benefit of the Constitution, would nevertheless obviate the difficulties interposed by judicial review. This expedient is suggested by the very nature of the Constitutional provisions. In effect, that instrument has been interpreted as providing that no railroad company can be deprived of its property without just compensation—in other words, no company can, by reduced rates, be deprived of any part of its reasonable income unless just compensation is made by the state. But if compensation is provided, then such deprivation may be freely made. This statement suggests the nature of a plan which, if executed, would meet with at least a fair degree of adequacy the demands of the situation. The trouble with government-made rates has not been that they have been so low as to deprive of property; the kernel of the difficulty has been, as we have already seen, that they have been imposed in the absence of any provision for compensation by the state in case they should prove destructive of property. In view of this fact the courts have brought the injunction to the relief of the railroads, holding that they should not be compelled to operate the rates and then recoup their loss through multifarious and unprofitable suits for damages against their patrons.

The difficulties, then, of judicial review would be remedied were the state (or federal) government to adopt some such plan as the following:

The Commission would, as now, be empowered to fix rates, and each railroad would be required to operate them as soon as directed by the Commission; but it would also be entitled to bring suit after an adequate period—perhaps one year—the object of the suit being to disclose whatever loss it had incurred by reason of the rates. For the purpose of trying these cases the state might well

create a special court, composed in part of lawyers, and in part of men whose experience in business or public affairs would specially qualify them for the work. If no such court were created, however, the suits should be instituted in one of the higher courts of the state, and in either instance the Commission should be made, on behalf of the state, the party defendant.

In such cases as these the object of the railroad would be the same that it is now in a suit for an injunction—to show that the rates are so low as to deprive them of a reasonable income on their business. The difference would be that, whereas the courts must now estimate the future effect of the rates on the basis of past business, under the plan suggested the actual effect of the rates for an adequate period of time would form the basis of their conclusion. Should the court decide that the railroad had not earned a reasonable income under the rates, its further duty would be two-fold:

- I. To determine the exact amount of the loss which should be attributed to operating the rates in question. This sum being thus fixed, unless either party elected to appeal the case, (for, of course, the right of appeal at least to the United States Supreme Court would always exist) the railroad would be entitled to collect it from the state treasury on warrant of the proper officer of the court. Just compensation would thus be made by the state for the property which it had taken in the public interest.
- 2. The Court should also be required to indicate in its opinion the exact vice of the rates in question. Its judgment, of course, would not operate to suspend the rates, but its conclusions as to their defects would be of great service to the commission in determining whether any revision of the schedules would be advisable.



Before proceeding to indicate the advantages of such a plan as that just outlined, there are certain apparent objections which it would be well to consider.

- (1) In the first place it may be objected that the railroads would be compelled to rely on the good faith of the state; and that, if the legislature should fail to make provision for the payment of the damages, the companies would be without means of recoupment. To this it is sufficient to reply that the good faith of a state is not contemptible security; that it is the only thing which any of a state's creditors have to rely upon; also that it would be hard to imagine a state treasury so depleted as to be unable to meet the warrants that would be presented. But a conclusive answer is that should any action be taken by the state which would preclude the payment of damages, the companies would of course be entitled to sue at once for an injunction to restrain the enforcement There seems, therefore, to be little force of the rates. in this objection.
- (2). But it may be contended that the scheme here proposed would be expensive to the state. The best answer is that the state would receive a consideration in return for its money. The economic and social benefits which would result from the application to railroads of the principle of public utility would be worth buying, if they could be procured in no other way.

But, on the other hand, it is believed that the actual amount which the state would be compelled to pay in damages would be much smaller than one would at first suppose. Several considerations lend support to this conviction. In the first place, the commission, realizing that the exact effect of its rates might be disclosed to the public, and that a mistake due to too radical action would result in a drain on the state's finances, would be inclined to proceed with all due care and prudence. More important, however, is the fact that the plan we are discuss-

ing would deprive the railroads of many of those undue advantages which we have seen that they now enjoy as against the public. For example, the effect of the rates on earnings would not be determined by the court, as at present, on the basis of past business—a basis always unfair to the rates: but rather would their actual effect have been observed. Moreover the system would permit the practical application of the Court's theories concerning the rights of the public, the industrial condition of community, and so forth, theories which have for the most part found expression only in obiter dicta. Court would not have to rely upon conjecture, but could observe the actual effect of the rates on the public welfare and in relation to industrial conditions. Thus a stronger case could be made out for the state than is possible under the present system. And, finally, since the railroads have to make their case on the basis of facts, it would be comparatively easy to detect the existence of doubt in their allegations, and doubt would have to be resolved in favor of the rates. There would be no suspension of rates by temporary injunctions, on the presentation of a merely probable case. Such are some of the more important reasons for the belief that the suggested plan would not prove expensive to the state in a very serious degree.

(3). But it might be urged that under the proposed system it would be possible for a road for which a low rate was prescribed to throw traffic temporarily to a higher rate line, thus showing smaller earnings and, apparently, substantial injury as a result of the rates, entitling it to compensation by the state. This objection, however, is not a serious one, and for many reasons. First of all, it is to be presumed that in many cases a Commission would make the same rate for all roads performing the same service, so that all would have an equally strong motive to get rid of traffic. But even should the commission's



rate not apply to all competing lines, or should different rates be fixed by the commission for different lines, such practices as are here suggested could be discouraged by being penalized, if that seemed necessary. Certainly they would be regarded by the Court as sufficient cause for the diminution of damages claimed by the road, and the loss of traffic by a low rate road with corresponding gain by a high rate road would properly be taken as evidence of the practice. But would the motive to throw over traffic be strong in any case? It is believed not. For if the process were accompanied by a secret agreement whereby the receiving road should pay a bonus on such traffic, the amount so paid would have to appear among the receipts on the other company's books some time or other, and it is not likely that the latter would be content to wait for it until the termination of its suit. Moreover, such a contract could be made void and unenforceable at law. But it is not probable that such a secret agreement would be omitted from the deal between the roads, for certainly no company would esteem that it had anything to gain by substituting for the immediate certainty of receipts from traffic the uncertainty of damages. which, if secured at all, could be gained only by a suit at law. All points considered, it is hard to see that the effectiveness of the proposed plan would be in any measure frustrated by any such attempted evasion. highly improbable that even a penal provision would prove necessary.

(4). Finally it might be claimed that it would be unjust to compel the companies to wait so long for their compensation. This, however, cannot be admitted. Certainly, if the state goes so far as to concede a right to compensation, the least which it can expect of the company is that it shall wait until that right can be established, and that then, like all other persons to whom a

right of action has accrued, shall be content to await the outcome of legal proceedings.

So far we have confined our discussion to objections which might conceivably be offered to the plan we have proposed. What now may be said of its advantages?

Obviously its chief merit is that it meets one of the important requirements of the situation. It is a plan which enables the state to prescribe rates made upon the principle of public utility. The commission is not embarrassed by the necessity of considering the effect of its rates upon railroad earnings. It can proceed with an eye single to the general welfare of the community. knowing that for any real financial injury suffered as a consequence of the rates the roads find satisfaction in the state treasury. Further it is a plan whereby rates may be made immediately effective. The adequate provision made for compensation for all loss removes the case from the equitable jurisdiction of the courts, and abolishes the injunction as a remedy for the roads, which can therefore have no legal excuse for not operating the rates at the time fixed by the commission. The delays in enforcing the rates, which go so far toward destroying the efficiency of the present system, would be unknown.

Another advantage of the proposed plan, and one of great practical importance. is that it is thoroughly in harmony with the Constitution as at present interpreted. in that it provides compensation for whatever property is taken by the state. In the minds of many this respect for private rights would, as a matter of theory also, form a commendable feature. Those who believe that owners of property devoted to a public use should receive compensation for loss through public regulation of that use could find no offence in railroad control under this system. The demands of the most radical advocate of private rights are fully met.



Other benefits of this plan have already been touched upon in considering possible objections to it. Suits brought by the roads would not, as now, throw upon the courts the necessity of estimating the future effects of the rates. Rather would the courts have as a basis for their decision the actual results of a year or so of application of the rates. No more artificial and inadequate methods and principles would be needed. And no longer would the numerous expressions of the courts as to limitations upon the rights of the companies remain simply obiter dicta, for often the facts could be found which would make their application possible.

Would not such a system require commissions of a very high grade of ability? Most assuredly. Of course it is too much to hope that in all states competent commissioners would at once be found. But it is believed that the serious responsibility resting upon the boards would by a process of selection speedily produce such an elevation in the competence of their membership as, in itself, would be a most auspicious event.

But while this plan has much in it that is worthy of commendation, it is, after all, but a make-shift. It recognizes that an erroneous doctrine of judicial review exists, and simply resolves to make the best of a bad matter. It would be far better, of course, to have that doctrine thoroughly revised and reformed, but until that is done, such a plan as the above is worthy of consideration.

Possibly one other suggestion should be made before leaving those measures designed to remedy both of the evils of judicial review. It is probable that the legalization of pooling and of the consolidation of parallel lines would relieve the situation to an appreciable extent. Doubtless one of the reasons why the roads now resist public control so strenuously is, that the intense competi-

tion which the law compels them to maintain forces them to discriminate, that is, to accept in many cases a rate lower than the public schedule. A law, however, giving to pooling contracts a legal status, and permitting parallel roads to consolidate, would tend to do away with competition and hence with discriminations, and would enable each company to charge in all cases the public rates. With this advantage—to the roads as well as to the public one of great value—the companies would in all probability receive in a better spirit the public efforts at control of rates, and it is not too much to believe that contests as to their validity would be somewhat less frequent.

II. We are next to consider such measures as may be proposed to restore to the commissions a power to reduce rates. Undoubtedly most of what can be done along this line must come as a result of renewed and energetic action on the part of the commissions. The existing situation behooves them to urge constantly upon the courts the injustice of the present judicial doctrine,—its fundamental error in subjecting rate control to the principles of eminent domain; but more especially the inadequacy of its methods, for example, its methods in finding the earning power of a company under the legislative rates. But beyond this a wide field for their activity is to be found in the numerous "circumstances and conditions" which the Supreme Court has recognized as important in determining reasonableness of income.8 These ⁸ Supra, p. 72.

dicta, pronounced by the Court during the last ten years, have opened the way for many new departures; and the duty now rests on the commissions to compel the Court to apply, or at least more accurately to define its theories. That the commissions have not thus far seemed to see this duty is unfortunately true. Perhaps the chief reason

is that for several years—we may say, generally speaking, until after the Smyth case—the commissions were fighting the theory of judicial review itself. They were trying to uphold their right to be exempt from judicial restraint. And when at last the courts positively asserted their right to pass upon rates, the battle seemed lost. Since then a chronic despondency on the one hand, or a too willing acceptance of their fate on the other, has kept the commissions from discovering and utilizing the germs of opportunity contained in the opinions of the courts.

To illustrate: the commissions might call up the dicta. restricting the right of the companies to profitable rates, which pertain to the management of the roads; in some cases they might show definitely wherein the management had not been prudent or honest, and wherein the companies had been guilty of unjust discrimination. might show that there had been needless expenditure in the construction of the road, and so forth. So also they might take up the dicta regarding the rights of the public and try to make something tangible of them, putting their cases as fairly and as concretely as possible, especially endeavoring to show that competition of other lines had so reduced business that a profitable rate would be unjust to the public. Again they might strive to prove that certain roads were built unwisely, where they were not warranted by business conditions; or they might offer definite evidence to show that the industrial condition of the community demanded the rates in question.

It was noted, in discussing these dicta, that the courts were most hesitant to apply them, and that in the few cases where they have formed a part of the state's contention, the Supreme Court has refused to apply them. It must be admitted, however, that few of the dicta have ever been urged with great force, nor have the contentions

based upon them been often supported by perfectly adequate evidence. By itself, however, in the absence of evidence, a court can do nothing about them; unless facts are presented as a basis upon which to proceed, it cannot make a concrete application of them. Unless the commissions realize this fact, and act accordingly, all the dicta must forever remain simply dicta. But if the commissions care to undertake the confessedly difficult task of establishing a connection between these dicta and facts which will make good evidence, it is not unlikely that in time the doctrine of judicial review will be still further refined by a new body of rules and principles which will offer some firm foothold to the agencies of public regulation.

Beyond these mere obiter dicta, however, further opportunities present themselves to the commissions. Under a recent decision of the Supreme Court, it is possible for a commission from time to time to re-adjust the rates on single commodities. Though such re-adjustment might involve a considerable reduction in those particular rates it would be hard for a railroad to prove their invalidity, for the Court has held that a road is not entitled to the same rate of profit on all commodities, and, further, that it is not a sound complaint to say that if the same reduction were made in the rates on all articles, the company could not secure reasonable income. This decision enables a commission, therefore, to effect a gradual revision of schedules, by dealing with single articles, or a few articles only, at any one time.

A somewhat similar opportunity is presented by the decision in the Gill case, where it was held that rates would not be suspended when the company could show, as a consequence of them, a loss upon only a part of its road. Under this rule, a commission might make re-

Minneapolis and St. Louis R. Co. v. Minnesota, 186 U. S. 257.



ductions affecting all commodities, but only on such a portion of the road that it would be impossible for the company to show a general loss on all its local operations

Now, it is, of course, admitted that the utility of these two expedients could not well be as great as would at first appear. They offer a means for but lame and halting progress in public control. A commission would not always wish to make all the re-adjustments possible under these two decisions, for such action might not be at all in accord with the principle of public utility. That is to say, considerations of the general welfare might, and in many cases would forbid that rates be lowered on certain commodities, or between certain points, while rates on other commodities and between other points remained unchanged. This is evident, and therefore it is apparent that the two measures just suggested would have to be employed with rare prudence and discrimination. could never lead to a full expression of the principle of public utility, nor could they ever produce entirely satisfactory conditions in the railroad industry. But as occasional expedients, in special cases, they might surely prove of use to the commissions.

III. We come finally to a consideration of remedies for the present inability of a commission to enforce its rates. Perhaps the first thought which occurs in this connection is that immediate enforcement of rates might be made possible through an act of Congress regulating the procedure of the federal courts in rate cases in such a manner as to prevent the issue of injunctions. At the close of the last chapter, however, we indicated our conviction that such a statute would be held unconstitutional. For equitable relief is now granted because it is held to be the only adequate remedy which the roads would possess—the only effective means of maintaining their constitutional rights. Therefore an act which deprived

them of this means would, in all probability, be construed as denying the constitutional protection to the roads, and would consequently be declared void. It is practically certain, therefore, that this suggestion would not be fruitful of good. If an act were to be passed forbidding the temporary injunction only, as has recently been proposed by Senator Bailey in the United States Senate, there would perhaps be some possibility of its validity, but even that is very doubtful.

Another plan, not, indeed, to secure prompt enforcement of rates, but to remedy the evils resulting from nonenforcement has been repeatedly suggested and has been adopted in a few states. It gives to the company the privilege of refusing to operate the commission's rates. but requires that it file with some public officer a bond to secure the repayment to each shipper of the difference between the rates charged and the commission's rate. should the latter be finally held to be valid. The objection to this scheme is to be found in the long period of time required to get a final ruling-a period as long, frequently, as four or five years. This is time enough for the company's rates to do damage which an ultimate repayment of overcharge could never repair. A business ruined is not restored by the mere transfer of a sum of money.

State statutes have frequently provided for a speedy trial of such rate cases as may be brought in state courts. Rate cases are given precedence over others, except, usually, criminal cases, and the procedure is directed to be of an expeditious and summary character. Such provisions regarding the trial of cases in the federal courts would do something toward securing more speedy enforcement of rates. So also would the creation of a special commerce court, such as has recently been proposed in Congress, and elsewhere. Even under the most favorable



circumstances, however, it must be admitted that the trial of a case would drag behind the march of industrial events. Such proposals as these must be looked upon as remedies which are simply partial, and leave much else to be done.

One final suggestion is offered. The difficulties presented by the doctrine of judicial review might be in part avoided were the schedules imposed by the state to err more on the side of conservatism than of radicalism. Much has been lost in the past through too sweeping changes, too great reductions in rates. An effort has been made to reach the goal at one bound, the state not being content to patiently work out, through a period of years, what it considered a fair standard of charges. The Nebraska Maximum Rate Law, overthrown in Smyth v. Ames, furnishes an apt illustration. The Court determined that the statute lowered existing rates by twentynine and one-half per cent., and this, it must be admitted, was a large reduction to be made at one time. It will be recalled that seven roads were involved, each making a showing for three years. Now, from the figures given in the opinion of the Court it may easily be computed that had the statute reduced existing rates only thirteen and one-half per cent., a very different result might have been reached by the Court. For in that event according to the methods of the Court, in sixteen out of the twenty-one cases the rates would have made possible the payment of expenses. One road would, indeed, have showed a loss for each of the three years, and two others a loss for one year apiece; but in the sixteen cases the average excess of percentage of receipts over percentage of expenses would have been a fraction over eleven. Thus in regard to at least six of the roads that statute would have had more than a fighting chance, and might possibly have been upheld.

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These facts illustrate the proposition that more can be gained by moderate reduction, which the railroads would hardly venture to contest or would be defeated in contesting, than by sweeping changes which are almost sure to meet with judicial condemnation. It is true that such conservative action postpones the day when, if ever, the ideal basis of rates can be established, but it accomplishes something instead of nothing. It means victory for the state, instead of defeat.

It is obvious from what has been said that the problem raised by the doctrine of judicial review demands for its solution patient, wise, and energetic conduct on the part of the commissions, and thoughtful consideration on the part of the public. Upon the commission rests the responsibility and duty of seizing the opportunities which, as suggested above, have been offered by the dicta and rulings of the Supreme Court. This duty should be discharged and would beyond a doubt be productive of much good, though, of course, it could never furnish a satisfactory solution of the problem. After all, some more sweeping reform is needed. Doubtless the thing most to be desired is a revision of the judicial doctrine by the courts, restoring to the legislative department of government its full and proper authority. In the absence of this highly improbable reform, however, some other expedient is necessary to meet the demands of the situation. The plan of compensation, suggested in this chapter, would perhaps meet them in a more thorough and generally satisfactory way than any other. While complying with the requirements of the Constitution as interpreted by the Supreme Court, and satisfying fully the most extravagant claims of private rights as against the public, it would nevertheless give to the commission the opportunity of adopting public utility as the controlling principle in rate making, and of giving efficient expres-



sion to that principle; and this is the ideal of railroad control. Industrial well-being can never be a reality so long as railroads are operated on the commercial principle of private advantage; nor is it attainable under our present conglomerate system where that principle still controls, though modified in some particulars. It can be achieved only when the realization that the railroad industry is a public business of fundamental importance to society, shall lead to the definite adoption of the principle of public utility as the guiding and controlling influence in railroad management. State ownership would make this possible, but state ownership has very many serious objections. With a system of private management it will be possible only when the problem of judicial review is solved. Under such circumstances, it is easy to perceive the significance of the plan which this work proposes, or of any other which can more readily accomplish the desired end.

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## SUPPLEMENTARY NOTE.

The monograph of Dr. Gryzanovski, as originally printed, contained so many errors in proof-reading, that the Executive Committee decided to reprint the number. The present copy therefore simply replaces the old one. It is due to the author and the writer of the Introduction to say that they were in no way responsible for the mistakes.

#### INTRODUCTION.

Ernst G. F. Gryzanovski (otherwise Grysanowski or Grisanowski), the author of this monograph, was a man of very remarkable attainments, and of very brilliant qualities as a viriter. Born May 10, 1824, at Königsberg, he entered the university there, and in 1845 took his degree, with high honors, as Doctor of Philosophy, after an examination in mathematics and Oriental languages. He was also a deep student of the Hegelian philosophy. 1847 he was appointed attaché to the Prussian Embassy at Rome, and there acted as secretary to the Ambassador von Usedom. Throughout the eventful period of Italian history that followed, he remained in this capacity, and his letters to his family describe vividly and graphically the events of those important days. In April, 1849, not many months after the flight of the Pope to Gaeta, he retired from the diplomatic service, having become disgusted with diplomacy. After a residence of two or three years, partly at Rome, partly at Genzano, supporting himself by teaching mathematics, Gryzanovski decided to follow a taste which had always been strong with him, and began the study of medicine. He studied first at Pisa, and subsequently at Naples, Rome, Montpellier, and Bonn, taking his degree of M.D., insigni cum laude, at Heidelberg in 1855. He practiced his profession at different periods in Florence, Pisa, and Leghorn. residence at Florence was for him a very agreeable one, as he was on terms of intimate friendship with Walter Savage Landor, the Brownings, the Trollopes, Mrs. Somerville, and many other celebrities then residing there.

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At this time he wrote much on social and hygienic questions. Somewhat later he became deeply interested in efforts made by the humane societies in England and Germany to restrain the practice of vivisection, and did admirable and valuable work with his pen in behalf of suffering animals. In 1871 he was offered the professorship of German at Harvard College, which, however, he declined. From 1869 to 1872 he corresponded regularly with the Nation, and it was the opinion of the editor at that time that no foreigner in his experience ever used the English language so correctly and gracefully as he. From 1871 to 1877 he wrote many articles for the North American Review, and Mr. Adams, the editor, used to say that Dr. Gryzanovski was his best contributor. "His English," says a writer in the Athenaeum, "was incomparably the purest we have ever known a foreigner to use." His subjects show a remarkable variety and range, e. g., "The Origin and Growth of Public Opinion in Prussia," "Regeneration of Italy," "International Workingmen's Association," "Arthur Schopenhauer and his Pessimistic Philosophy," "New Trials of the Roman Church," "Comtism," "Wagner's Theories of Music." Dr. Gryzanovski died at his villa in Segromigno, near Lucca, May 31, 1888.

FREDERICK TUCKERMAN.

Amherst, Mass., June 18, 1906.

# ON COLLECTIVE PHENOMENA AND THE SCIENTIFIC VALUE OF STATISTICAL DATA.

#### BY THE LATE DR. GRYZANOVSKI.

There is a strange fascination in numbers. Not only the mathematician, and the mystic philosopher, but the artist, the physicist, the economist, all feel it alike, and even those who are unable to comprehend the real nature of numbers, have an instinctive appreciation of their conclusiveness. The reasons of this are by no means generally understood, and the success with which numbers are used in lieu of arguments is greatest where those by whom or against whom they are used are unconscious of these reasons. Numbers are the artillery of controversy; they overawe the opponent, and, like artillery, they are surrounded with a certain halo of mathematical positiveness which we are far from wishing to destroy, but which ought not to be magnified by ignorance and timidity. Unquestionably, the statistical method is a precious tool. but it is also a very delicate one which, when blunted by unskilled handling, may spoil the work for which it was designed.

An example will illustrate this. During the recent agitation against compulsory vaccination in Germany, the learned Professor Kussmaul took pains to find out that 3330 cases of small-pox occurred in Marseilles in 1828, and that of these 3330 persons 2289 had not been vaccinated. Of these latter, 420 or 18.3 per cent. died, of the 1041 vaccinated ones only 18 or 1.7 per cent. died. The data being presumably correct and the calculation

476] 3

obviously faultless, the efficacy of vaccination seems proved. But now Dr. Lorinser comes and tells us that in 1828 the population of Marseilles was 133,000, of whom 33,000 were vaccinated while 100,000 were not. And if of the former 1041 or 32 per mille caught the disease and of the latter 2289 or 23 per mile, this not only disproved the protective power of vaccination but proves its noxiousness. Which of these pleaders is right? Both may be wrong in their conclusions, but the statistical premises of Dr. Lorinser are more logical than those of Prof. Kussmaul. Many people will see this on comparing the two, but few would have detected the flaw in Prof. Kussmaul's unchallenged argument.

Now considering the manifold usefulness of the statistical method in almost every field of scientific enquiry, and considering how often and how easily the general public is misled by amateur statisticians, it will be admitted that the elements of statistical philosophy deserve greater attention than they have hitherto obtained. Even as a weapon of defence, they are not to be despised, and dry though the subject may appear at first sight, nobody will regret having bestowed a little trouble on its study.

Triumphant opponents often urge that "facts speak for themselves." No doubt they do, and so do the mouths of cannons. Yet eloquence is no exclusive prerogative of facts, considering that any logical or moral axiom speaks not only as loudly as any fact, but the more loudly for not being a fact. Facts can say and do say to us only these three things:

"We are what we appear, or are reported, to be,

"We are actual effects of more or less inferable causes, "We must or may occur again under similar circumstances."

Each fact, therefore, presents itself under three possible aspects: as a statement, as an effect suggestive of causes

or of cognate effects, and as a future possibility. Only in these three relations, facts can become interesting, and in accordance with these three relations, statistics must have a threefold task: they must begin with the registration of facts, then pass on to their causal interpretation or to the estimate of their retrospective certainty and end with an estimate of their probability or prospective certainty.

But before examining the nature of these functions we shall have to examine the nature of the materials used in statistics. Pure numerals are meaningless; their value lies in their relation to some unit which may be either a generic term or some arbitrarily chosen plurality of specials. Statistical data, therefore, are in reality ratios, not numbers. In a list of percentages we may omit the common denominator, but a parliamentary majority which is a numerical difference, can have no meaning without the addition of the whole number of voters. A ratio is registered, not as a semel factum that might be interesting for its own sake, but as a first specimen of a whole class of possible facts for which we are willing to wait. These successive ratios, or rather their numerators, may be equal or different: in either case it is not these numerators which interest us but their variableness or invariableness. In other words, if the primary materials are numbers and ratios, its secondary materials are laws and causal connexions, for we cannot witness repetition, sameness, change, periodicity, without looking for its cause or for its law.

If the variations are quite irregular and their range very wide, we may well despair of finding their causal conditions, but if they are regular, showing either a steady increase or a steady decrease or something like periodicity, the law or agency that regulates these changes will generally be discoverable. More remarkable, however, than any change or periodicity will be the constant recurrence of the same ratio. Such ratios are called *Nature's Constants*, and most of them belong to mathematics, physics, chemistry, astronomy. Yet statisticians are always eager to find new ones and that, too, in spheres where evolution reigns supreme and where evolutionists ought to be the very last persons to seek for such treasures.

These constants of nature speak like all other facts, but they only say: we are what we are and what we ever were, parts of the eternal fitness of things on whose why and wherefore it is useless to speculate. They are stubborn, sterile facts, striking yet not interesting, because their immutability hides their causes and places them altogether beyond our reach. A point may be part of a line, but if we only see the point, we cannot trace the line on which it lies, unless it moves in it, and a fact which may be a link in many causal chains cannot betray to us its real causal chain, unless it is capable of undergoing some changes be they ever so small. If the fourth decimal in the number  $\pi$  were 6 instead of 5, if falling bodies traversed 20 feet instead of 15 in the first second, or if the atomic weight of carbon were 77 instead of 75: we should accept these data without being shocked or embarrassed by them. They would upset no doctrine, disturb no habit of thought. Their fixedness isolates them. Nature's constants are Nature's alphabet and as such must be learnt, but even if we knew them all, we should be as far as ever from knowing Nature's grammar. Even in biology, which is the science of evolution or everlasting change, such constants have been sought for, but the results cannot claim more than an apparent or relative fixedness, and the value attached to them is not scientific but practical. If we ask, for instance: what is the normal length of the human life? it is scientifically indifferent whether the answer is "three-score and ten" or 72 or 80 or any other number. No number, be it ever so accurate, would help us understand why the



organic machine which constitutes our body was wound up for that particular length of time, and how it comes that a contrivance, after having supported and readjusted itself for so many years, ceases to do so at that age rather than at any other. This kind of physiological insight can never be furthered by biological statistics. If, nevertheless, we care to know and take pains to ascertain, whether the psalmist's estimate still holds good in our days, our motives are chiefly practical. Our life assurances and the general range of our worldly hopes and aspirations depend on the result of that enquiry, and only when these results show certain variations, when the "normal" length of life is found to be 74 in one country, 70 in another, and 67 in a third, the facts regain their proverbial eloquence and become scientifically interesting. one of Nature's constants one number is as good as another: as Nature's variables these numbers become scientific problems. For, although constancy must have its causes as well as variableness, the causes of constancy are inscrutable while the causes of variableness and the law or rate of the variation itself are either calculable or inferable from the variations observed.

A pursuit which consists in registering facts, inferring causal connexions and estimating probabilities must naturally have a wide range of activity. Yet statistics claim more than their due when they refuse to acknowledge any limit to their competency. They pretend to be, like philosophy, a universal science, a solvent for all problems whether relating to ethics or physics, to sex or health, to trade or mortality. And this indiscriminate application of one method of enquiry has naturally led, and continues to lead, to many fallacies, not to speak of the logical error of the application itself. If we examine more closely the apparently boundless area of statistical enquiry, we soon discover certain lines of demarcation by no means coinciding with the boundary lines of the different sciences,



but dividing the whole area into three broad sections of different degrees of scientific dignity or positiveness. This division being independent of the subject matter, no single science lies entirely in one of these sections or can fill up the whole of any such section, so that each section will embrace parts of several sciences, and within each section the statistical method will yield results of the same scientific validity. Statistics pretend to reign supreme in all these sections, but we will endeavor to prove that, while their authority must be fully acknowledged in one of them, and while their services may be accepted in another, neither their rule nor their services are admissible in the third. In other terms: we shall prove that statistics are within certain limits, a genuine and independent science, but that, on going beyond these limits, they become, on one side, an auxiliary science, a mere method, and, on the other, a trespasser.

These three sections are the realm of necessity, the sphere of probability, the region of incalculableness. We comprehend a phenomenon when we know all its causes, and this knowledge may be perfect, incomplete or impossible. If it is perfect, two cases are possible: the causal connexion may be a priori intelligible, so that the mathematical or logical certainty we already have, could not and need not be enhanced by further observation and computation;—or we may know empirically that the phenomenon never fails to occur when certain causes coöperate and never does occur when only some of these causes are at work, and until this experience is acquired, repetition of observation or experiment is, of course, necessary. In either case we have, or obtain, an adequate knowledge of causes and necessities, and a phenomenon whose causes are understood must be, pro tanto, predictable, its prospective certainty being as great as its retrospective necessitv.

But if we know only some of the causes necessary to



produce the phenomenon, the recurrence of this group of causes will be more frequent than the recurrence of the phenomenon which, consequently, cannot be predicted with certainty. And, lastly, if we know none of the causes or, which is practically the same, if the number of possible causes is so great that we cannot grasp the intricacy of causal connexion,—in other words, if the phenomenon is the result either of arbitrary volition or of so-called accident: both our comprehension and our prescience will be nil and we must content ourselves with being the describers or historians of the phenomenon.

Thus we obtain (to change our metaphor) three distinct levels of enquiry: the level of adequate comprehension, the level of partial or imperfect comprehension, and the level of historic knowledge. Or we may call them: the level of necessity and certainty, the level of contingency and probability, and the level of freedom and "accident." On the first level we have problems and adequate data for their solution, on the second we have problems but no adequate data, each datum implying a problem and each problem being only imperfectly soluble, and on the third level we have to deal with results which, if considered as problems, are insoluble, but if considered as matters of fact, are fit materials for description or historic record.

Now it is obvious that on the first level statistics can never be more than an auxiliary method. Where we have a priori certainty, one fact is as good and as conclusive as a thousand, although a small number of repetitions may serve didactic purposes by exemplifying what may require illustration, not by proving what requires no proof. And where our knowledge is only empirical, the statistical treatment may give it any desirable degree of accuracy but cannot enrich it by new principles or points of view.

On the second level, on the contrary, where imperfect

comprehension of the causal connexion forces us to substitute theoretically possible causes for real causes and probability for certainty, the statistical method becomes indispensable, because by multiplying the data, it reduces the number of theoretically possible causes. The real causes being contained in the possible causes, a reduction of the latter must lead to an approximate knowledge of the former.

Not so on the third level. The phenomena wrought by free volition and by so-called accident are effects of a causation of transcendent complexity. We know nothing about this causation, or the words "freedom" and "accident" would never have been coined. We can no longer determine the theoretically possible causes, and even if by conjecture we had found some of them, their number would no longer comprise all the real causes, as in the former case. The only thing we know of these real causes is, that their number must be very large. Therefore, what was the wider conception in the preceding case, becomes here the narrower one, and if statistics by multiplying the data, reduce the number of theoretically possible causes, that is to say, make the narrower conception still narrower, the result must be not an approximation to the knowledge of the real causes, but rather a retreat from it.

If, then, statistics appear as a useful, though by no means indispensable auxiliary on the first level, and if they cannot pretend to be more than a descriptive and recording agency when intruding on the third, they certainly have a right to consider the second level as their proper domain and to apply their rules and methods to all problems and enquiries that can be proved to belong to that level. Nor will it appear strange now, if the scientific dignity of statistics is found to begin where scientific positiveness ends and if it proves greatest where certainty and uncertainty are most evenly balanced.



Having thus defined the legitimate sphere of scientific statistics, we return to the consideration of their functions and operations. These functions, as we saw above, consist in the registering of facts, in the inferring of their causes and connexions and in the estimating of their probabilities.

I. REGISTRATION implies classification, counting or measuring, averaging and tabulating. Facts must be classified according to what they have in common, that is to say, either according to their outward appearance or according to their causes. But community of cause being generally an open question at this stage of the enquiry, it will be prudent to begin with groups formed according to outward similarity. The general death-rate of each locality and for each period of life must be known, before the mortality due to any particular disease or epidemic can be properly investigated.

Only equals or similars can be counted. By counting them we efface their individuality and merge quality in quantity. Thus numbers become a solvent which may again be eliminated when it has done its duty, just as a chemical solvent is allowed to evaporate when it has served its purpose, which was to reveal hidden affinities or to transform shapeless masses into well-defined crystals.

But the counting of one series of facts only corresponds to the measuring of one value. However numerous these facts, their counting constitutes but one observation, and repetition being the essence of statistics, we must wait for, or artificially obtain, a new series of similar facts and as many of such series as the nature of the problem requires. If these groups are sufficiently similar, differing only in the time or date of their occurrence, we shall obtain a series of sums or numerical values referring to the same unit and therefore comparable. And here two cases are possible. Either these values form an alto-

gether irregular succession of sudden or gradual increments and decrements, or they exhibit a certain *prima* facie regularity, grouping themselves with a certain evenness of distribution on either side of an ideal medium value.

This ideal value is called the average and the most generally accepted form of average is the arithmetic mean, which is the sum of the items divided by their number. It may appear arbitrary to substitute such a formula for a plurality of actual data very few of which, if any, correspond exactly to that formula. Nor is the arithmetic mean, as we shall see presently, the only possible form of average. But mathematicians know that it has the important advantage of being deducible from a more general law called the rule of minimum squares which is used by physicists, astronomers, and chemists for the correction of "personal" and accidental errors of observation. And since this rule rests on the assumption that there is but one true value and that the discrepancies of the observed data are due to human fallibility and to other accidental perturbations which are not the essential factors of the phenomenon examined, it follows that the arithmetic mean may be used as the one true value, that is to say, may be substituted for the many discrepant values observed, in all cases where the width of their discrepancies is sufficiently small and their distribution on either side sufficiently even to warrant the assumption that there is but one true value. Of the two conditions, however, the smallness of discrepancy is far less essential than the evenness of distribution. How wide these discrepancies or the statistical dispersion, as it is called, may be without excluding the use of the arithmetic mean, is shown by the isothermal lines which connect places of the same mean temperature. London and China, for instance, lie on the isotherm of 50°, but the number of days with a temperature of about 50° is very large in London and almost nil



in China, and it may be questioned whether a place where only the extremes of cold and heat prevail, can be said to have a mean temperature at all. Such a mean is always calculable but, unless the "dispersion" is small, has a purely ideal significance. It will be better in such cases to reduce the unit by subdividing the series of data into portions sufficiently small to exhibit a smaller dispersion. By substituting the twelve monthly averages for the yearly average, we obtain results at once more plausible and more actually true. We refuse to believe that China has "the same temperature" as London, the two places being something like climatic opposites, but we readily admit that China has the same midwinter temperature as the North Cape and the same midsummer temperature as Morocco, the monthly isotherms expressing truer or less ideal equations than the yearly ones.

The great objection, then, to the use of the arithmetic mean in cases of wide statistical dispersion lies in this, that not one of the observed data may be equal or nearly equal to the mean value found by calculation. And this may have induced men like Fechner and Galton to search for other methods of averaging. To Fechner we are, indeed, indebted for two new forms of average which he has called Centralwerth and Dichtester Werth and which we propose to call central or ordinal mean and frequential mean respectively. The ordinal mean is obtained by arranging the observed data according to the numerical value, by then counting them and taking the central item which is separated from the largest and from the smallest by an equal number of intermediate items. This mean has the advantage of being itself one of the data observed, so that whatsoever can be predicated of the data can be predicated of their central mean as one of these data. which is not the case with the arithmetic mean. Cournot. though not knowing the "central" average, has furnished us a most instructive example for this fact, by pointing



out that when on a fixed hypotenuse we construct a number of rectangular triangles, and then take the arithmetic mean of each of the two sides, these two mean lengths will not form a rectangular triangle with the given hypotenuse. Here, then, is a case where the arithmetic mean cannot logically be used as a representative or abridged substitute for the whole group of data, whereas the central means of the two sides, occurring as they do among the triangles actually constructed, might, if any summarizing were required, be used for that purpose.

The other form of average proposed by Fechner is determined by the *frequency* of occurrence. If we arrange the data according to their value or quantity and then divide this series into equal portions, a certain unevenness of distribution will be noticeable; if we then take the most crowded portion and from it its central item, we shall obtain a value which, in certain cases, may be used as the representative of the whole series, it being the one which actually occurs more frequently than any other.

The differences between these three forms of average may be thus briefly defined: in the arithmetic mean the sum of the positive deviations is equal to the sum of the negative ones and the sum of the squares of all the deviations is a minimum;—in the ordinal or central mean the number of the positive deviations is equal to the number of the negative deviations, and the sum of all the deviations is a minimum;—and in the frequential mean the number of deviations is greatest where their sum is smallest.

If, for instance, we wish to determine the mean age of a dead generation, we are free to choose between these three forms of average, but the three results will have different meanings and different degrees of importance. The arithmetic mean will give us the age which every individual would have reached without exceeding it, if life were evenly distributed among men. Such an age is nothing but a calculated abstract and may in reality be the one more frequently surpassed or not reached than reached and not surpassed. But both the ordinal mean and the frequential mean will be realities, the ordinal mean giving us, in this case, the age which has been as often surpassed as not reached, and the frequential mean representing the age which was actually the one most frequently met with in that generation. It is the last two numbers (and more particularly the central mean) which interest insurance companies, while the arithmetic mean seems to have no practical value in this case.

Of course, the three centres may coincide, or two of them may, but the central mean coincides more frequently with the arithmetic mean than the frequential mean with either of them. In all such cases of coincidence or even of quasi-coincidence we may assume that we have to do with phenomena of a considerable degree of fixedness, whose averages have been called *typical* by Quételet. A "typical mean" is, in fact, for biological and social phenomena what Nature's constants are for physical phenomena.

We began by saying that the successive results of statistical computation may either show a certain symmetry of deviation from an ideal mean value, or have an altogether irregular appearance. We know how to deal with the former case, but what are we to do with the latter? We may divide a series of irregular data into sections and calculate the average of each, but what is the use of a series of averages which must be as irregular as the original data? No doubt we may discover regularity of change instead of a fixed value, but very often we only have the change without a trace of regularity, and until we can decide whether the change is regular or lawless, we must resort either to tabular or to graphic registration. These two modes of registering are logically the same, the two heads or entries of a statistical table

being to the list of data what the abscissas and ordinates are to a geometrical figure of two dimensions. methods are the reverse of the method of averaging, for while the latter consists in condensing and summing up, the two former not only leave the series of data unabridged but often enrich it by interpolation. The graphic method, especially, is essentially interpolation, the image of tabulated data being always a dotted line which has to be rounded off into a curve. By rounding off this line we, no doubt, commit an infinite number of infinitesimal errors, but these errors are not greater, they are, indeed, smaller than the errors of omission we commit in using one mean value in lieu of a multitude of data. specialization implied in the average is generally bolder than the generalization implied in the statistical curve. Both are useful operations, because the former enables us to speak of a multitude without enumeration, the latter to see or to conceive a multitude as a continuous whole. The average is its numerical name, the curve its intellectual portrait. The name not being a definition and resting on omission, is always below par or sub-adequate (if we may coin such a term), while the graphic image, implying interpolation, is always above par or super-adequate. There is an ideal ingredient in both.

II. Interpretation of statistical data. The registered data being either fixed values and ratios or a sequence of variable values, the thing to be interpreted can only be the fixedness or variableness of these values, but all registration rests on the assumption that the phenomena to be counted as one collective phenomenon are held together by some conceptional bond of union, and the minimum of this connectedness is outward similarity.

A group of phenomena sufficiently similar to be counted, may be the result of the joint action of many dissimilar causes. If among, or besides, these causes there is one common to all, the lines of causations may be



said to converge towards this common cause; if all the causes are different, these lines of causation may be said to diverge. Now it is obvious that community of cause is as strong a bond of union as common descent or relationship, but community of effect as a bond of union between these effects means nothing but similarity. may be a bond of union between the causes, especially when these causes are free agents and their coöperation is intentional (so that community of effect becomes community of motive which means community of cause in this case). But the phenomena whose connectedness we have to deal with, are the effects and not the causes or agents that wrought them. We may say, therefore, that whenever many dissimilar causes unconsciously cooperate in producing a group of similar effects, this similarity does not constitute relationship but must be considered as accidental, if by accident we understand the cooperation of causes either unknown or too numerous to be reckoned with.

Thus we obtain two great categories of collective phenomena: the connected and the unconnected phenomena (the latter being connected only by outward similarity). But as we have, between convergence and divergence, the case of parallelism and (to be quite exact) the case of asymptotic convergence, we have to admit here, too, an intermediate class of phenomena whose causal lines point towards some unknowable common cause lying at infinite distance. To search for this cause would be a waste of labor; if, nevertheless, we like to go back along such groups of parallel lines, we do so in hopes of finding some other equally collective phenomenon which, in this causal pedigree, is anterior or ancestral to the given phenomenon from which we started. This ancestral phenomenon may be known to us by previous experience, or it may be a theoretical inference, a presumptive predecessor; in the former case we may consider the given phenomenon as



its probable effect, in the latter case, as its probable symptom. We say "probable," because there is no absolute certainty in these complex causations, and there can be no absolute certainty, first because the ideal cause or point lying at infinite distance, may lie on either side of our given phenomenon, so that we cannot always tell which of the two phenomena is cause and which effect; and secondly because if certain causes are known to produce, severally, certain effects, it does not follow that the sum of these causes when acting together must produce neither more nor less than the sum of those effects. The neglect of this interdependence or interference of parallel phenomena is one of the most ordinary sources of statistical error.

In 1868 (to quote a well known instance) the Registrar-General of Scotland, comparing the death-rate among single persons with the death-rate of married persons of the same age, came to the startling conclusion that bachelorhood was "more destructive of life than the most unwholesome trades or the residence in an unwholesome house or district where there has never been the most distant attempt at sanitary improvements of any kind." The fallacy of this conclusion was promptly pointed out first by Mr. Proctor in the Daily News of October 17th, 1868, and later by Mr. Darwin in his Descent of Man (I, 176), and as neither of these authors impugns the accuracy of the data, the fault must lie in their interpretation. Matrimony may be, directly or indirectly, conducive to health and longevity, but at the same time, there is "a principle of selection which tends to fill the number of married men from among the healthier and stronger portions of mankind." Each of these two phenomena, matrimony and health, may be cause or effect to the other, though probably not in the same degree.

The greater the convergence of the causal lines, the less uncertain will be our interpretation. When we examine the insalubrity of trades, for instance, no inversion of cause and effect is possible. Health and infirmity may, indeed, act as a bias in the choice of a profession; a youth with flabby muscles is not likely to become a blacksmith's apprentice, but what constitutes the special aptitude for the cobbler's or the baker's trade? To prove the existence of a principle of selection in these cases we should have to prove that the apprentices of these trades belong almost always to families that have no disposition to tubercular consumption,—which, unfortunately, is far from being the case.

How, then, can we know, in any given case, whether there is convergence, divergence, or parallelism of causation? To interpret statistical data means nothing but to decide this question or to determine the degree of causal connectedness in the given group of phenomena, and what we want, is a practical *criterion* implied in the data themselves.

It is clear that even connected phenomena must vary, unless they have all their causes in common, which hardly ever happens. The regularity of their variations must, therefore, depend on the number of the causes they have in common, that is to say, on the degree of their causal connectedness. Consequently the degree of their connectedness must be inferable from the degree of regularity in their variations, and statistical interpretation must essentially consist in an estimate of regularity,—a task of considerable vagueness and delicacy.

When speaking of averages we tried to show that, although any sequence of values, be it regular or irregular, must have its arithmetic mean, this calculated and always calculable value cannot be used as a fair representative of and convenient substitute for the data themselves, unless their discrepancies from the mean value are suffi-

ciently small and their distribution on either side of it sufficiently even to warrant the assumption that there is but one real value and that the discrepancies are due to incidental perturbations whose causes form no essential part of the enquiry. We also saw that, of these two conditions, the smallness of discrepancy (or statistical dispersion) is less essential than the evenness of distribu-But what is the value of such a criterion, unless "smallness" and "evenness" can be properly defined? Considering the vagueness of these terms, we might have thought that none but arbitrary or conventional definitions were possible, but by introducing the number of the data, or the number of the series of data, as a tertium comparationis, statisticians have succeeded in obtaining algebraic formulas whose exactness or validity can be ad libitum increased by increasing the number of observations. One of these formulas gives an algebraic definition of the "probable deviation," the other of the socalled "statistical precision." Both these values are calculable from the arithmetic mean of the given data and the number of these data, and it is clear that the larger this number of data is, the smaller must be the "probable deviation" and the greater the "statistical precision," so that the "precision" is inversely proportional to the "probable deviation," and the "probable deviation" would seem to be inversely proportional to the number of data observed, though in reality it is inversely proportional to the square root of this number of data. We cannot enter into mathematical details to prove this last proposition, but the general significance of those terms and their relation to each other is sufficiently clear to make the following rule intelligible:

In order to decide whether a series of data may or may not be dealt with on the presumption that it is a (slightly vitiated) manifestation of law and intelligible causation, calculate, from their number and their arithmetic mean,



the "probable error or deviation," that is to say, the deviation from the mean which is as often exceeded as not reached within this series of observations. Then calculate the average deviation directly from the (positive or negative) data. If the two values are equal or nearly so, the presumption on which the theoretical value was calculated is correct, and the phenomenon is the effect of causes which work according to the law of chances, that is to say, with theoretically absolute precision. If the theoretical value is smaller than the average of the real data, the presumption of a certain causal connectedness will still be legitimate, but the number, nature, and working of the presumably common causes becomes more and more uncertain.

The third case, of the theoretical value being greater than the average of the real data, can hardly be admitted as possible. The disturbing elements which obfuscate causation lying all on the side of nature or reality and never on the side of theory, practical precision can never be greater than theoretical or ideal precision, unless special contrivances were at work, which would, of course, vitiate the whole problem.

This rule may be expressed in a more popular form, by substituting graphic representation of data for tabulated numerals. We then may say that although these data are detached points which we may multiply but cannot connect, yet if they appear to lie on a curve and are sufficiently numerous, we may assume that all the intermediate points not determined by observation are likely to lie on the same curve. In assuming this, we assume that each point of the curve is, somehow, determined by its two neighbors and the whole curve by any part of it. In other words: we assume the curve to be expressible by an equation and the phenomena observed to be the result of a law inferable from them.

If the points do not appear to lie on a continuous curve, and if the broken line connecting them shows no alternate deviations from some ideal medium, we may attribute to them that degree of causal connectedness which cannot be traced back to the causes themselves but only to some anterior (ancestral) phenomenon whose graphic representation shows similar ups and downs as the given one. Or we may deny their causal connexion altogether and consider the data as results either of "accident" or of arbitrary volition, in which case we have to show cause why they should not be discarded altogether as a meaningless plurality without any bond of union. A crystal may interest us, but hardly a heap of sand. The shape of such a heap may be very curious, so curious that it attracts notice and deserves description, but the more curious it is, the less likely is it to occur again and the less likely are we to discover the various causes that happened to produce it, such as the size, shape, roughness, moisture of each molecule. We may say, therefore, that the descriptive or historic interest in a collective phenomenon is greatest where the scientific or theoretic interest is smallest.

These three cases correspond exactly with our original classification which we will now recapitulate.

- 1. There are cognate phenomena connected by descent from at least one common cause.
- 2. There are collectively related phenomena which are to each other either as two (successive) generations in the causal pedigree, or as a hidden but inferable state of things is to its manifestation, so that the latter is suggestive or symptomatic of the former. And there are
- 3. unconnected phenomena which not being derivable from common causes are mere results to us and have, through their accidental or intended similarity, an historic or descriptive rather than a scientific interest.



But there are different degrees of connectedness as there are different degrees of accidentality, so that the first as well as the third of these categories requires a subdivision. The common cause of a group of phenomena is either known a priori or is inferable from them. That is to say: the collective phenomenon observed is either identical with some known deduction from some known principle, or it only looks as if it might be such a deduction. In the former case we have mathematical certainty; the curve reminds us of its formula. In the latter case we have inductive approximation; the curve tempts us to infer from it some empirical formula which may or may not hold good for the non-observed part of the curve but which can be indefinitely corrected through additional data.

In like manner, there must be two classes of unconnected phenomena. We call them unconnected when we know the multiplicity of their causes but not these causes themselves. Now, this ignorance may be either partial or total. If it is partial, we are justified in adding conjectural causes to the known ones, and if it is total, we must give up the scientific enquiry and content ourselves with the descriptive or historic record of the facts observed. In the former case we may speculate on some more or less plausible analogies; the curve may suggest another curve; in the latter case we have nothing but historic exactness, the data being what they are, a series of points whose only discernible bond of union is juxtaposition and which refuse to be rounded off into fictitious continuities or laws.

We thus obtain the following five classes:

But it is clear that in the first of these five classes, the reign of law being absolute and the law itself being known, we require no statistical data to elucidate or to prove it. And statistical enquiry is equally out of place in our fifth class where no law, at least no knowable law, reigns. The phenomena of this class are commonly called "accidents" and what accident is in nature, from a statistical point of view, free will is in ethics. That every action must spring from a motive, may be conceded, but what was the cause of the motive? And in the case of many conflicting motives, what is the determining cause of our choice? Even those who cannot grasp the idea of spontaneity, must admit that human motives and biases are something infinitely more subtle and intricate than physical forces and physical causes. And if we have to admit the transcendency even of the latter by calling their effects "accidents," we must a fortiori acknowledge the transcendency of the former by calling them "free will." Neither the truism of proverbial philosophy: "there is no accident," nor the dogma of materialism: "there is no freedom of will" can make this class of phenomena less incalculable to us, and incalculableness is as stubborn a fact as any other fact, and we may stumble over it, if we choose to ignore it.

By excluding, therefore, the first and the fifth category as lying outside the range of statistical interest, we obtain three classes of collective phenomena which being either presumably connected or indirectly connected or apparently unconnected, have this in common that they all belong to the level of probability and contingency, where there is neither absolute certainty nor absolute incalculableness, but relative certainty and relative predictableness ranging between these two extremes. The causes and laws are not known a priori but inferred and induction being less certain than deduction, the future validity of

these laws and causes will depend on the degree of their inferableness. The empirical formula inferred from observed data will the more *probably* hold good for the non-observed part of the phenomenon or for future phenomena, the greater the number of data is, from which it was inferred. It is both general principle and concrete result, and its retrospective adequacy is the exact measure of its prospective validity.

This, then, is the real sphere of statistics. Once more we find in it three distinct levels of knowledge, but these levels are now better defined and their aggregate range is more limited than we found it to be at the outset of our enquiry. We also possess a practical rule or criterion for deciding on which level any given problem may have to be placed. But it cannot be denied and ought to be admitted by statisticians, that this rule fulfils only part of what it promises: it shows us quite clearly the boundary line which separates the uppermost level from the second, but not the one that separates the second from the third. When we know that a given phenomenon does not belong to the first level, the algebraic formula will not help us to ascertain whether and how far we may deal with the phenomenon as a symptom of something else. And here we have a permanent source of error which cannot, it seems, be stopped by any rough-and-ready contrivance and whose dangers must forever depend on our mode of viewing things at large, in other words, on our philosophy.

It would be a great error to suppose that such a criterion might be found in the quality or nature of the subject matter or in the scientific province to which the given phenomenon belongs. For the rubrics obtained by a classification of sciences according to their subject matter, far from coinciding with our three statistical levels, cross these three levels, as it were, at right angles, so that each

class of sciences covers part of the three levels and each level stretches across all classes of sciences. But although we cannot find the desired criterion in this way, we shall gain in clearness and width of horizon by making the most of this incongruence of the two classifications, that is to say, by using them as abscissas and ordinates in a table with two entries.

The simplest classification of sciences (excluding mathematics on one side and history on the other) is their division into

- I. physical sciences referring to inanimate nature,
- 2. biological sciences referring to organic life,
- 3. ethics and social sciences referring to collective or individual action.

We see at once that the real fundamentum divisionis here is the degree of consciousness, which is nil in inanimate nature and greatest in human action. In biology we meet with nerve-power and "cell-souls" but the spontaneity of these cell-souls (if they have any) and the spontaneity of animal instinct can but slightly, if at all, interfere with the reign of law. Unknown and complicated though it is, organic nature is still a part of Nature and, pro tanto, subject to fixed laws. Instinctive actions are fairly calculable, as hunters know, and psychology itself, dealing as it does with much that is unconscious or half-conscious "cerebration" (such as habit and association of ideas) belongs quite as much to the second as to the third class of sciences. When Buckle tells us that the number of misdirected (and undirected) letters passing through the London Post Office does not much vary from year to year, we must consider this as a curious bit of information, but not as belonging to the natural history of homo sapiens, as if there were a law that makes it necessary that a certain percentage of human beings should act foolishly.

No doubt the temptation to make such a mistake is great, since whatsoever many persons have in common cannot be the result of individual caprice but must be a more or less general characteristic of human nature. But this depends entirely on the number of those persons and we must take a common-sense view of what is "many" and what is "few." A folly committed by about 25 persons in a million cannot be said to be an essential part of human nature, and if this number remains the same year after year, it is because there is no reason why it should vary, as long as its causes, which (not lying in human nature) must lie in outward circumstances, remain unaltered. A sudden increase of culture and prosperity would alter these numbers at once, as can be proved by comparative statistics.

If we now arrange the subject matter of each science (or rather class of sciences) according to its calculableness or incalculableness, we shall again find within each science, our three statistical levels (with a marked preponderance of the central level).

Beginning with the most purely theoretical part of physical science, we have on the first level the whole mass of physical phenomena that are predictable or can be verified by experiment, failure being due to no theoretical flaw in the law of chances but to physical imperfections. Next come the "indirectly connected" phenomena of nature which, though known to be ruled by laws, are too complicated to be understood or predicted. They seem to be connected with other phenomena, but even if the connexion between sun-spots and droughts or between sun-spots and magnetic disturbances were proved, the prediction of either event often proves false and theories have then to be amended accordingly. All weather-rules are uncertain, but their uncertainty proves the value of meteorological statistics and can be lessened, if at all,

only through these statistics. More hopelessly uncertain, however, and more incalculable are the "apparently unconnected" phenomena which we find on the third level of this rubric and which constitute the "chapter of accident." We may count the flashes of lightning in a storm, the number of hailstorms or of inundations in a given length of time and in a given area, but what follows from such data? If the insurance principle is to be applied in these cases, the bargain can have no greater fairness than a fair bet whose fairness consists in the equality of ignorance on both sides.

In like manner, the biological sciences have their three levels of relative certainty and accidentality. On the first we have all so-called laws of life. These laws being less known to us and their working being less regular than the working of the physical forces, the statistical method becomes indispensable: the normal length of the human life, the ratio between male and female children, and other typical values on which life assurances and annuities are calculated are essentially statistical problems which could not be solved by any other method. On the second level of this rubric we must place the statistics referring to hygiene, to the insalubrity of trades, climates or localities, to epidemics, vaccination, insanity, to population and ethnographic peculiarities, to harvests, famines, and to all other phenomena whose causal relations can only be inferred from succession or simultaneousness. In medicine and whenever the nature of the phenomenon is as unknown to us as its causes, the propter hoc can only be inferred from the post hoc: the efficiency of a morbific cause, of a drug or a mode of treatment can be proved by no reasoning, yet may be rendered more or less plausible by statistics. In all these cases the statistical data are expected to reveal some otherwise hidden or doubtful connexion between one "indirectly connected" phenom-

enon, such as health, and some other "indirectly connected" phenomenon, such as habits, wealth, climate, occupation, marriage, mode of medical treatment, etc. And this connexion will be either reciprocal or one-sided. that is to say: the two phenomena compared will be either interdependent or one will be symptomatic of the other. The third level of quasi-accidentality will here be occupied by all those highly complex phenomena whose factors are partly psychological and partly physical. Shipwrecks, conflagrations, railway "accidents," and even such oddities as Mr. Buckle's misdirected letters are almost always due to the joint action of outward circumstances and freaks of unconscious cerebration. regularity of such phenomena being always small, and even then only apparent, the fairness of the insurance bargain depends exclusively on the circumstances of each case.

In our last rubric, which contains the effects of conscious volition, we seem to lose sight of nature, but when we consider that human action is either determined by reason or by taste or by moral motives, we see at once that here, too, we have sufficient material for our three levels. Logical and rational actions springing from intelligible motives, are always more or less predictable. We know beforehand that gold will be exported after a considerable rise in the rate of exchange, and we need not count the bankers who export it. But not all the phenomena of political economy are equally transparent: the laws regulating supply and demand, are theoretically as valid as any physical law, but their validity rests on . the assumption that all men are not only rational but also morally neutral beings, neither unselfish nor excessively mean and greedy. And this assumption being false, we often see the doctrine of free trade and free competition practically refuted by "rings," "camorras," market conspiracies, corn-speculators, and others who carry the principle to its utmost consequences. It is, in fact, rare that reason alone is allowed to regulate human action, but where this is the case, there can be no room for statistical enquiry. What statisticians have called *generic phenomena* are collective actions of this kind, whose causal connexion is a priori intelligible, and if they find a place in our diagram, it is because they never have the certainty of astronomical events (which are excluded from our scheme), and, rational though they are, we generally find traces of moral or conventional biases among their efficient causes.

The second class of conscious actions are truly social phenomena. They are more or less rational, but rationalness does not define them. The motive of the individual is hidden under, and modified by, that complex mass of social and traditional influences which we call fashion, conventionalism, local spirit or the spirit of the age. It is clear that such actions may, collectively, become exponents of human, national or local culture, of art, literature, industry, prosperity, and being indicative of a particular stage of development, their statistics are, not improperly, called evolutionary.

On the last level in this rubric we shall have to put all purely ethical or rather *moral* phenomena. Volition, though conscious, is embarrassed by a multitude of conflicting motives, judgments and desires, and the casting vote or decisive bias whether coming from free choice, caprice or innate preference, is generally incalculable. The statistics of crime and of suicides belong partly to this rubric.

All this may be summed up in the following diagram, which will be the more intelligible for not being encumbered with details and examples:

|                                        | A. Inanimate<br>Nature.                                                            | B. Animate<br>Nature.                                             | C. Conscious<br>Volition.                                         |
|----------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------|-------------------------------------------------------------------|
| I. Level of Certainty                  | <ol> <li>Probabilities cal-<br/>culable from the-<br/>oretical laws.</li> </ol>    | ferred from types<br>and typical aver-                            | guided by Utility<br>("Generic" phenom-<br>ena: financial statis- |
| II.  Level of  Contingency             | 4. Dependent and interdependent phenomena. (Cosmic and meteorological statistics). | 5. Symptomatic phenomena.  (Medical and ethnological statistics). | 6. Evolutionary phenomena.  (Social statistics).                  |
| III.  Level of  Accident  and  Freedom | cause unconnect-<br>ed) phenomena.                                                 | ena. Accidents<br>in the sense of<br>disasters.                   | 1                                                                 |

Of course, these lines of division are no absolute boundaries. There are many phenomena, especially among those referring to what may be called human nature, which can be placed on more than one statistical level and in more than one scientific rubric. The statistics of drunkenness, for instance, are partly pathological and ethnographical, partly social or evolutionary. Dueling, though eminently a social or evolutionary phenomena, may also be considered as a moral one, and suicides which are essentially moral phenomena, may also be dealt with either as social or as pathological phenomena, when we have reason to suppose that their number is greatest in times of reckless competition or in certain seasons of the year.

The reason of all this is, that the term "human nature" has a double meaning. In one sense, human nature or the nature of an intelligent and moral individual is the

conscious negation of brute nature, but human nature as the complex of qualities and capacities common to most human beings, is, to a certain extent, an object of natural history and natural science. In this latter sense it will be less calculable than physical nature but more so than individual nature. The freedom of individual will, even if it were only apparent like the accidentality of "accident," would remain a practically incalculable agency. Its manifestations may be counted and registered, that is to say, many free and independent actions may prove sufficiently similar to form a collective phenomenon; but the numeral of this phenomenon can give us no clue to the recesses of the human conscience, and we shall never be able to talk of, and to reckon with, moral bias, emotion, genius, inspiration, as we can talk of, and reckon with, gravity and electricity and the more reliable forces of our animal nature such as greed, hunger, or vindictiveness.

The way in which we deal with statistical problems. and the criteria we use in assigning to each given problem its level and its rubric, must greatly depend on our general philosophy or "world-view." Our diagram helps us to no algebraic formula that is applicable throughout its nine categories, but it has the advantage of bringing order and clearness into the great mass of materials to which the statistical method of enquiry can be applied. It shows us the limits of statistical competency which lie not so much on the four borders of our diagram as near its four corners, for, while the sphere of scientific statistics must lie, in one sense, between certainty and accident, it lies, in another sense, between physical forces and conscious motives. Both physical causes and conscious motives may belong to it, but only when the physical causes are sufficiently numerous and their action sufficiently complicated not to be calculable, and the conscious motives are sufficiently common not to be incalculable.



Regularity of action being then disguised by the complexity of the phenomenon, the physical causes will have a *subjective* uncertainty of action as great as the objective uncertainty of biological phenomena; and individual spontaneity being disguised by social sameness, the conscious motives will have a subjective certainty apparently as great as the objective certainty of physical phenomena.

On our first level, but more particularly in its first and third category, statistics can never be more than an auxiliary for elucidating otherwise intelligible laws. On our last level, but more particularly in its first and third category, statistics may count and register, describe and chronicle, but must beware of arguing. Argumentative statistics being superfluous in our first and third category, become more or less impossible in our seventh and ninth category, and only in the five remaining categories formed by the intersection of the two central rubrics, can statistics claim the rights and honors of an *independent science*.

Notwithstanding all this, there is a twofold tendency among statisticians to contract this legitimate domain of theirs, the one acting horizontally from right to left, the other vertically from below upwards. The materialist who denies human freedom and sees in life nothing but a physico-chemical process, will be prone to transfer statistical data from the third vertical rubric into the second and from the second into the first, and the mystic who has this in common with the materialist that he denies accidentality, will be prone to promote phenomena from the lower levels to the highest level, which is the level of the reign of law. The former tendency can only last as long as the reign of materialism lasts, but the latter tendency is far more permanent because it is common to the rationalist, the believer and the mystic, who all agree in repudiating accident and differ only in the name of its substitute, which is fixed law to the rationalist, God or Providence to the believer, occult powers, fate, "manifest destiny" to the mystic. The error here contemplated does not lie in any of these creeds but in the tendency, common to them all, to reject a practically useful and indispensable term on the ground of a theoretical truism, which is admitted by all who use the term "accident" in its subjective meaning.

The first tendency, when acting alone, induces statisticians to ascribe to unconscious agencies what is due to conscious motives; the latter, when acting alone, induces them to ascribe to causal connexion what is due to outward similarity. The former effaces moral responsibility, the latter scientific honesty; the former destroys consciousness, the latter hypostasises the unconscious; the former makes statistics nihilistic, the latter cabalistic.

Many weather-rules become cabalistic through excessive specialization. We are apt to become cabalistic when laying too much stress on the statistics of street accidents, of twin-births, of psychological freaks, of misprints or other oddities occurring, with apparent and transitory regularity, within certain limits of time and space. All talk about good luck and bad luck, if founded on ever so many statistical data, is essentially cabalistic, and cabalistic is the statesman who recognizes the vox Dei in the roars of the mob or in the whims of public opinion. A political cry, provided it gratifies the lower aspirations of the people, will soon be joined in by a large number of persons: it may then become an irresist-ible force, but can never be a sign or proof of "manifest destiny."

If, on the other hand, the theory were propounded (and it has been propounded) that sun-spots and human prosperity are concomitant phenomena, we should have a typical example of the other kind of statistical error



which we have called the materialistic error. Many conclusions drawn from phrenological data (especially in criminal statistics) belong to this class of fallacies, and the same must be said of those fanciful statistics of genius or other forms of human greatness, when pretending to prove the dependence of such phenomena on topographical data, on food, on latitude, on isothermal zones.

Crimes are, and ought to be considered as, conscious actions. As such they belong to our third rubric and more particularly to its third level, which is the level of They are essentially individual, and moral freedom. outward similarity does not always suffice to make them countable as a collective phenomenon. A hungry man may steal eatables, a banker's clerk having his mother, his sisters and a family of children to maintain, may defraud his rich employer, but what do we gain by counting and booking such crimes? They will occur occasionally, as long as human frailty lasts, and they will occur in periods of prosperity as well as in periods of commercial depression. The temptation here is as intelligible as the rational motive in those actions which constitute "generic" phenomena, but these crimes are not generic phenomena for all that, for, although their motive may be as intelligible as in the case of innocent expediency, its efficacy (or power of inducing action) can never be as certain. thousand persons may feel the temptation, but we cannot tell how many or whether any will act on it.

We admit, however, that a great number of crimes, such as fraudulent bankruptcy, professional robbery and murder, furnish proper items for collective phenomena. Being acts of warfare which the criminal wages against society, they are, to a certain extent, induced by society, and these statistics then become social or evolutionary phenomena belonging to the second level of our third rubric.

We must further admit that when the purely animal factor of crime predominates over its mental or moral factor, as is the case in all crimes of violence and brutality, such crimes may furnish data indicative of certain phrenological types or of pathological states such as insanity. A certain part of criminal statistics may, consequently, belong to our second rubric which, embracing all biological phenomena, is the battle-field of mental and physical agencies. Here our jurymen find their store of "extenuating circumstances," which we are far from grudging, but it is clear that one may go too far in this direction and that the more we shift human action from its proper category towards that of physical events, the smaller will be our appreciation of moral responsibility.

The materialistic philosophy which has induced this tendency, may claim the merit of philosophic consistency. But what shall we say of those shallow thinkers and lawgivers who deal with crime as if it were nothing but a form of viciousness repressible by fear. The Swiss people who have just voted for the re-establishment of the pain of death and for the publicity of executions, have shown thereby that they are firm believers in the deterrent effects of capital punishment. They had abolished it, because there was a time when their prisons were all but empty and when crimes of any kind were extremely rare. The last seven years having shown a startling increase of crime and especially of murder, the Swiss were not wrong in dealing with this phenomena in its social and evolutionary sense. It would have been rational to enquire whether the presence of 8,000 Italian workmen on the St. Gotthard line or the nihilistic spirit emanating from the Swiss schools and universities had anything to do with it. But to treat it at once as a purely psychological phenomenon caused by the disappearance of a penalty which had for generations proved superfluous, was a bit of crude reasoning which looks logical but is absurd.



The two tendencies mentioned above, though apparently due to two opposite habits of thought, are often at work together, and the one acting from below upwards while the other acts from right to left (in our diagram), the tendency resulting from their joint action must be in the direction of the diagonal, so that all the influences apt to vitiate statistical reasoning may be summed up in a general tendency to consider all collective phenomena as effects of intelligible causes and as causes of probable effects. There are economists, for instance, who confidently believe that we are now entering on an era of prosperity which is to last five years, and who have no other ground for believing this than the equal length of the late era of commercial depression. This is both cabalistic and materialistic, because it implies that these alternations and their respective lengths (for which we are mainly responsible ourselves), are regulated by mystic laws and by powers over which we have no control. Mr. Buckle tried hard to prove statistically the regularity and calculableness not only of events but of human actions. Though writing while Hartmann was still in his teens and some years before the Darwinian doctrine of inheritance had become a common creed, he was, unconsciously, a true worshipper of the Unconscious. what has science gained by this new worship? To have discovered the mystic vestiges of an occult power combining the functions of Registrar-General with those of a universal tyrant, may be a merit but ought not to be the boast of the rationalist. Yet, if statistics have ever become cabalistic, it was due to this peculiar form of rationalism called materialism, which cannot try to be deep without lapsing into mysticism.

III. Little remains to be said about the prospective interpretation of statistical data or the estimate of probabilities. We know that the relative certainty of the re-



currence of a phenomenon is, theoretically, as great as the relative certainty with which it can be derived from its causes. Its probability may be called its prospective causality, just as its causal connexion may be called its retrospective probability: any error of diagnosis will induce error of prognostication. Much, therefore, of what can be said about probability, is implied in what has been said already about causal connectedness or inferableness of causes.

It is important to remember that the term "chance," which is often used in the sense of accidentality, is, philosophically, the reverse of accident, since it implies relative calculableness, while accident is absolute incalculableness. There is a law of chances, but there can be no law of accident, so that the calculus of probabilities will be most applicable on the first level, less so (but still applicable) on the second, least on the third,—not because there is any flaw in the theory of chances or any unsurmountable algebraic difficulty, but because the validity of the law of chances rests on assumptions which are truest on the first and least true or altogether impossible on the last level.

The algebraic measure of a chance is a fraction whose numerator is the number of favorable cases (or favorable possibilities) and whose denominator is the number of all the possible cases. But we have seen that all statistical data, though apparently numbers, are ratios, percentages, and therefore fractions whose numerator represents the number of observed facts (or their calculated average) and whose denominator is the sum of all the observed cases of non-occurrence as well as of occurrence. Thus every statistical ratio might be supposed to represent a fraction of probability, and, to a certain extent, this is the case; but it is only true when the possible cases represented by the denominator have all the same degree



of ideal possibility, that is to say, when they are absolutely homogeneous. In the game of dice, the probability of scoring ten is 3/36 or 1/12, the favorable cases being three, the possible ones altogether 36. But if in times of an epidemic, three persons have died in an establishment of 36, we cannot say that out of any other group of 36 persons, three are likely to die. The fraction 3/36 or 1/12 does not represent the probability of death in the sense in which it represents the probability of scoring 10 with two dice, because the possibility of death is by no means the same in thirty-six persons of different age and constitution, while the possibilities of the thirty-six combinations in the game of dice are absolutely equal. course, we can make our denominator more homogeneous by making many series of observations and calculating the mean value or, which comes to the same, by enlarging the denominator and reducing the new fraction to the former unit. If in a thousand groups of 36 persons the arithmetic mean of the thousand death-rates were 3000/36000, this fraction, which is again equal to 1/12, would indeed represent the probability of death for the survivors, but even then its validity would be less great than the probability of scoring ten with two dice. would be, at best, but a probability belonging to the second level, whereas the chances in a game of dice belong to the first. By multiplying our observations we have eliminated only that factor of variableness which belonged to the difference of vitality and morbidity of the population, but not the other factor which belongs to the increasing or decreasing virulence of the epidemic and which obviously cannot be eliminated at all.

It is different with those vital statistics which refer to general mortality under presumably normal and permanent conditions. Here every statistical ratio will be a fairly valid expression of probability, and life insurance companies, provided they revise and correct their tables from time to time, have all the materials for offering fair terms to their associates. That perfect fairness can only be obtained through *mutual* insurance, is a matter of course.

The further we descend from this level of typical phenomena, the less fair becomes the insurance compact, even when its bona fide object is not undue gain but to provide against dangers over which we have no control or to secure indemnity where immunity is out of the question. Such dangers are disease, old age, widowhood, fire, shipwreck, floods, hailstorms, railway accidents, etc., a variety of emergencies which being partly meteorological, partly biological, partly psychological and generally of a mixed nature, can hardly be dealt with in a uniform manner. How can we calculate the chances of floods or hailstorms? We have before us a mare magnum of possibilities whose probabilities cannot be surveyed from the terra firma of experience. Averages have no meaning here, the dispersion and irregularity of the observed data being far too great to justify the belief in anything like a typical mean. The valuation of chances must, in such cases, rest on the observed maxima, these maxima being the limits not likely to be exceeded. This is, no doubt, an injustice to the policy-holder, but it is made good by the comparative rareness of the occurrence. that is to say, by the relative smallness of the danger even at its highest valuation and by the corresponding smallness of the premium. The compact, then, though scientifically false and hopelessly, incorrigibly false, becomes practically fair enough.

The same may be said of railway accidents. They are highly complex phenomena dependent on such a variety of physical, psychological and even ethical conditions that even careful judicial enquiries often fail to ascertain



the degree of imputableness belonging to each of the possible causes. To speak of a calculable probability of such accidents seems absurd, and yet there are insurances, not against these incalculable events, but against their possible and doubly incalculable consequences such as loss of limb or life. Here, too, the compact can never be strictly fair, but it becomes unobjectionable and even useful, when the danger is small and the number of policies so large that even the smallest premium suffices to make the insurance remunerative. The probability, in this case, is not a ratio but an endless series of ratios, or graphically, not a line or a curve, but an ill-defined zone of possibilities: it is a probability of the third order befitting the nature of the phenomena which belong to our third level of statistical enquiry.

The chances of a lottery and those of most games are theoretically calculable and obviously belong to our first level, but, as a matter of fact, the hopes of gamblers are more frequently disappointed than fulfilled, and this discrepancy between theory and reality is due either to unfairness of terms or to the necessarily false assumption on which even bona fide transactions of this kind rest. viz., that the calculated possibilities are all equally possible. They ought to be, but never are and never can be, quite equally possible. Dice, for instance, are never absolutely perfect in shape or absolutely homogeneous in molecular structure: their centre of gravity rarely, if ever, coincides with their geometrical centre. The imperfections of lottery-marks, lottery-wheels, playing-cards and other gambling utensils are altogether innumerable, and a microscopic defect may act and must act as a permanent bias. The fairness of any game of chance, therefore, does not lie in the assumed equality of the calculated possibilities, but in both gamblers' common ignorance of their irregularities. That the ratio between stake and

prize must be equal to the calculated ratio of chances, is a matter of course and does not concern us here, but the impossibility of perfection in tools renders it necessary that these tools should be used in turns by each party, and where no tools are requisite, as in a bet, the bargain can only be fair when both parties are equally ignorant of the final issue and when its chances are either incalculable or have not been calculated by either: the difference of strength in their convictions is then expressed by a difference of wagers, and subjective probability takes the place of objective or theoretical probability.

Most social phenomena having to be treated according to the rules of the second level, will vield probabilities of the second order, and it is a greater mistake to place them too high than to place them too low. But we never hear of the latter and lesser mistake, the upward tendency being, as we have seen, universal throughout the domain of statistics. The very common belief in regular cycles of commercial and industrial prosperity is proof of this tendency. Surely, if social prosperity were a phenomenon representable by a curve with regular undulations, we might boast of having solved the greatest of all social problems. The equation of that curve could only contain variables belonging to physical nature and would be a law of nature empirically inferred as a Turk's illness is the inferred will of Allah. And what is this belief founded on? M. Lefevre, the President of the British Statistical Society, informs us that every tenth year is a year of greatest depression, that this has been so during the last thirty years and that Prof. Jevons has succeeded in tracing the same periodicity as far back as the beginning of the eighteenth century.\* The readiness with which such generalizations are always accepted by the



<sup>\*</sup> The London Times of Nov. 23, 1878, in a leader, and the Times of Dec. 21, 1878, in a letter to the editor.

general public, is hardly intelligible when we consider the extreme slenderness of their numerical foundation. What do we know about the commercial statistics of the year 1700, what of the innumerable whims of trades and moods of industry in those days? Most likely the periods of prosperity were never longer than ten years (man cannot bear prosperity very long), but who can tell us how often they were shorter? The belief in a decennial or any other cycle of this kind seems altogether irrational, for some at least among the many forces that regulate the growth and flow of capital, are purely psychological and moral. Greed and indifference, caution and courage. thrift and prodigality can coëxist in many different proportions, succeed each other at many different rates, enhance or impair each other in many different degrees. What right have we even to look out for law or fixed periodicity in financial phenomena as if they were comets or eclipses? And do not even comets defy our algebra? All we know from experience is that, sooner or later, human greed, which seems greater than human judgment, gets choked through over-production, so that, sooner or later, every rise must be followed by a depression. Considering also that, on the whole, the lower motives are stronger than the higher ones, we may go so far as to say that the periods of human prosperity are likely, in the long run, to be shorter than those of depression, but it would be intellectually unbearable and morally dangerous, if anything like a fixed and calculable law were supposed to regulate these phenomena.

We grant that solar physics may affect our planet. When we are told that bad harvests are caused by sunspots, we have no theoretical difficulty in admitting the connexion, provided we have statistical data to prove the constant coincidence of the two cycles. But the more the psychological factor in any collective phenomenon pre-



dominates over the physical factor, the weaker and the less significant will be the legitimate inferences from its statistics. And when besides the physical and the psychological factors, a moral factor has been at work, our statistics lose still more of their diagnostic and prognostic suggestiveness.

Such are the statistics of crime, for instance. Unlike the phenomena of political economy, a crime need not necessarily be considered as a social phenomenon, since it belongs to private rather than to public life, and still more private seems to be the nature of suicide. We may treat suicides as symptomatic and as evolutionary phenomena; we may classify them according to the seasons in which they occur, according to the modes of execution or according to their motives. But if we do not make these distinctions, if we consider suicide merely as the action of a morbidly biased human will, without any reference to the nature of the bias, we shall not be much the wiser for counting the occurrences. The phenomenon then ceases to be a connected phenomenon, and its probability ceases to be calculable. The probability of a crime or the probability that any given individual will commit suicide, is not more but a good deal less calculable than the occurrence of a flash of lightning or of a hailstorm or of a railway accident. Neither the yearly averages of suicides nor the budget of the guillotine (as Quételet calls the statistics of bloody crimes) imply any oracular hints concerning the future. We are not bound to decide (by lot or otherwise) who and how many of us are to commit suicide or murder to make true the averages of the past, nor need we fear the fate of Oedipus who fulfilled the oracle by trying to evade it. These averages are, in fact, pure fictions and refer to independent facts as unconnected with each other and as different from each other as the novels of Sir Walter Scott, which we may count and read, but which cannot be summed up in an average novel.

Statisticians, when translating their ratios and averages into probabilities, feel constantly tempted to ask whether there is not, in collective individual action, some unknown compelling force acting on society as if it were a unit and unknown to each individual. But this question implies that the data and averages at our disposal are more or less constant or typical values, whereas they represent, in each case, but infinitesimal sections of an endless line of evolution; of a line, therefore, of whose straightness or curvature we know next to nothing. Who can tell us, whether human development is necessarily and always progressive, or whether its final decay does not form part of it, as it does in individual life? And if we can shorten our life through carelessness or vice, why should we not be able to shorten the evolutionary phases of social life and to hasten the process of social decay, through the sins or omissions of each of us? We do not deny the reign of law in organic life by asserting that we are in a great measure responsible for disease and premature death. Nor do we imply that causality ceases to be valid in ethics and in history, when we assert that we are, each of us, in a great measure responsible for the woes of mankind and the miseries of life. We cannot interpret collective phenomena and their statistics either rationally or profitably, unless we emancipate ourselves from all materialistic and cabalistic dogmatism and take a common-sense view of individual freedom. The human will. though essentially free, is of course not absolutely free. It can assert this freedom only by reacting, successfully or unsuccessfully, against outward circumstances and these outward circumstances may lie within ourselves, though remaining outward with regard to our innermost self. But of these reactions we are not always conscious, and it is the object of social and biological statistics to bring them home to us, to make us conscious, not so much of the powers and forces acting on us, as of our reaction against them.

These outward influences being numberless, we cannot, while living in the flesh, emancipate ourselves from their But, taken singly, they are variable collective action. and there is no a priori reason why any one of them should not be made to disappear or be reduced to an imperceptible minimum in the course of time and through our own efforts. Evolutionary statistics mark a state of society at a given moment or in a given place. a state we call fashion, public opinion, spirit of the age, and this spirit unquestionably prejudges the future by guiding the will and the actions of many persons. many are not all, and not always are they a majority, though they often appear as such by occupying the surface of social life. As a matter of fact, there are always some people, no matter how many or how few, who are either "in advance of their age" or in some other sense opposed to the reigning spirit. Whence comes this advance, whence this opposition?

If mind were matter, evolution would be a mechanical process of absolute necessity and absolute objectivity. But materialism, which is a good working hypothesis in physical science, is unable to explain social phenomena and utterly breaks down when applied to aesthetic or to moral phenomena. The annals of history will never be to the historian what ephemerides are to the astronomer, and to treat history as if it were a chapter of natural history, is to mislead the human intellect by flattering its pride and to shirk responsibility by throwing the weight of our sins and omissions upon the innocent shoulders of Nature. When we happen to be among the lean kine, the best thing we can do is to feed and fatten them and



not to wait for the coming of the fat ones, whether they be seven as in the days of Moses or ten as the modern cabala pretends. In other words: when the cumulative effects of universal greed and dishonesty manifest themselves in form of distress and depression of trade, it is more rational to mend our ways and cause others to mend theirs than to look out for sun-spots and cycles. It will then be found to be within our power to destroy the regularity of these cycles and, with it, their statistical significance.

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## AMERICAN ECONOMIC ASSOCIATION.

The American Economic Association is an organization composed of persons interested in the study of political economy or the economic phases of political and social questions. As may be seen by examining the list of members and subscribers printed in this volume, not only are all universities and most prominent colleges in the country represented in the Association by their teachers of political economy and related subjects, but even a larger number of members come from those interested as business men, journalists, lawyers or politicians in the theories of political economy or, more often, in their applications to social life. There are further nearly two hundred subscribers, including the most important libraries of this country. The Association has besides a growing representation in foreign countries.

The first two meetings of the Economic Association in 1885 and 1887, and the meetings of 1897, 1898, 1900. 1901, 1902, 1903, 1904 and 1905, were at the same place as those of the American Historical Association, and in the last two years the American Political Science Association met with the other two Associations. Joint sessions and less formal gatherings of the members of the Associations were thus held. In 1906 the meeting will be held in Providence. The annual meetings give opportunity for social intercourse; they contribute to create and cement acquaintanceship and friendship between teachers of economics and cognate subjects in different institutions, as well as to bring into touch with each other students and business men interested in the social and economic problems of the day. The meetings aim to

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counteract any tendency to particularism which the geographical separation and the diverse interests might be deemed to foster.

The Publications of the Association, a complete list of which is printed at the end of this volume, were begun in March, 1886. The first series of eleven volumes was completed by a general index in 1897. The second series, comprising two volumes, was published in 1897-99, and in addition thereto the Association issued, during 1896-99, four volumes of Economic Studies. In 1900, a third series of quarterly Publications was begun with the Papers and Proceedings of the Twelfth Annual Meeting, and has been continued since with ample amount and variety of matter. It is intended to add to these quarterly numbers, from time to time, such monographic supplements as the condition of the treasury and the supply of suitable manuscript may make possible. bulletin of bibliography and current notes has been authorized and will be published the coming year.

The American Economic Association is the organ of no party, sect or institution. It has no creed. Persons of all shades of economic opinion are found among its members, and widely different views are given a hearing in its annual meetings and through its publications.

The officers of the Association and the contributors to its publications receive no pay for their services. Its entire receipts are expended for the printing and circulation of the publications and for the annual meetings. Any member, therefore, may regard his annual dues either as a subscription to an economic publication, a payment for membership in a scientific association, or a contribution to a publication fund for aiding the publication of valuable manuscript that might not be accepted by a publishing house governed primarily by motives of profit, and that could not be published by the writer without incurring too heavy a burden of expense.

# CONSTITUTION OF THE AMERICAN ECO-NOMIC ASSOCIATION

(As Revised at the Annual Meeting, Dec., 1905.)

## ARTICLE I.

### NAME.

This Society shall be known as the AMERICAN Eco-NOMIC ASSOCIATION.

### ARTICLE II.

### OBJECTS.

- 1. The encouragement of economic research, especially the historical and statistical study of the actual conditions of industrial life.
  - 2. The issue of publications on economic subjects.
- 3. The encouragement of perfect freedom of economic discussion. The Association as such, will take no partisan attitude, nor will it commit its members to any position on practical economic questions.

### ARTICLE III.

#### MEMBERSHIP.

- 1. Any person interested in economic inquiry may, on the nomination of a member, be enrolled in this Association by paying three dollars, and after the first year may continue a member by paying an annual fee of three dollars.
- 2. On payment of fifty dollars any person may become a life member, exempt from annual dues.

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- 3. Foreign economists of distinction, not exceeding twenty-five in number, may be elected honorary members of the Association.
- 4. Every member is entitled to receive, as they appear, all reports and publications of the Association.

### ARTICLE IV.

### OFFICERS.

The officers of the Association shall be elected at the annual meeting and shall consist of a President, three Vice-Presidents, a Secretary, and a Treasurer, whose term of office shall be one year; six members of the Publication Committee and six elected members of the Executive Committee whose term of office shall be three years, and who shall be so classed that the term of two members of each committee shall expire each year; provided that the office of Secretary and that of Treasurer may be filled by the same person. The Executive Committee shall consist of the President, the Vice-Presidents. the Secretary, the Treasurer, the Chairman of the Publication Committee, the Ex-Presidents, and six elected members.

### ARTICLE V.

#### Duties of Officers.

- 1. The President of the Association shall preside at all meetings of the Association and of the Executive Committee and, in consultation with the Executive Committee, shall prepare the programs for the annual meetings. In case of his disability, his duties shall devolve upon the Vice-Presidents in the order of their election, upon the Secretary and upon the Treasurer.
- 2. The Secretary shall keep the records of the Association and perform such other duties as the Executive Committee may assign to him.



- 3. The Treasurer shall receive and have the custody of the funds of the Association, subject to the rules of the Executive Committee.
- 4. The Executive Committee shall have charge of the general interests of the Association in the interval between annual meetings. It may fill vacancies in the list of officers, and may adopt any rules or regulations for the conduct of its business not inconsistent with this constitution or with rules adopted at the annual meetings. It shall act as a committee on time and place of meeting, and perform such other duties as the Association shall delegate to it. A quorum shall consist of five members, other than the Vice-Presidents and the Ex-Presidents.
- 5. The Publication Committee shall have charge of the publications of the Association.

### ARTICLE VI.

#### AMENDMENTS.

Amendments, after having been approved by a majority of the Executive Committee, may be adopted by a majority vote of the members present at any regular meeting of the Association.

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WOODWARD, P. HENRY, Conn. Gen. Life Ins. Co., Hartford, Conn.

Woollen, Evans, 1615 Talbott Ave., Indianapolis, Ind.

WOOLWORTH, JAMES MILLS, Omaha, Neb.

†Worcester Free Public Library, Worcester, Mass.

\*Worthington, T. K., The Daily News, Baltimore, Md.

WRIGHT, CARROLL DAVIDSON, Worcester, Mass.

WRIGHT, CHESTER WHITNEY, Harvard University, Cambridge, Mass.

Wulsin, Lucien, Baldwin Piano Co., Cincinnati, O.

WYCKOFF, GARRETT P., Grinnell, Ia.

WYCKOFF, WALTER AUGUSTUS, Princeton, N. J.

YARROS, VICTOR S., 608 East Division St., Lincoln Park Station, Chicago, Ill.

Young, Allyn A., Univ. of Wisconsin, Madison, Wis.

Young, Frederic George, Eugene, Ore.

Young, John Philip, Chronicle, San Francisco, Cal.

ZACHRY, JAMES G., 1048 Fifth Ave., New York City.

# THE EIGHTEENTH ANNUAL MEETING.

The Eighteenth Annual Meeting of the American Economic Association was held at Baltimore, December 27-29, 1905, under the auspices of the Johns Hopkins University. The Historical, the American Political Science, and the American Biographical Associations met at the same time and place. A joint session was held with the American Political Science Association.

The following members were registered as being in attendance at the meeting, and there were probably some others who failed to register: J. S. Aburatani, T. S. Adams, W. M. Adriance, F. Andrews, C. G. Arbuthnot, C. W. Baker, S. E. Baldwin, G. E. Barnett, D. C. Barrett, W. Beer, L. S. Beman, S. Blum, E. L. Bogart, J. C. Bowen, R. R. Bowker, R. C. Brooks, G. S. Callender, J. B. Clark, F. A. Cleveland, Miss K. Coman, J. R. Commons, C. H. Cooley, J. Cummings, J. E. Cutler, W. M. Daniels, E. H. Davis, A. M. Dav, D. R. Dewey, F. H. Dixon, C. W. Doten, J. H. Dynes, C. E. Edgerton, J. A. Fairlie, H. W. Farnam, H. W. Farquhar, F. A. Fetter, W. C. Fisher, J. D. Forrest, F. Franklin, H. B. Gardner, W. G. Ghent, F. H. Giddings, N. P. Gilman, W. H. Glasson, J. M. Glenn, G. G. Groat, M. B. Hammond, E. C. Hayes, Miss A. Hewes, A. V. Hiester, F. W. Hilbert, J. A. Hill, J. H. Hollander, H. Holmes, G. K. Holmes, F. C. Howe, R. F. Hoxie, C. H. Hull, M. L. Jacobson, J. W. Jenks, J. W. Kennedy, D. Kinley, W. Kirk, G. A. Kleene, B. G. Lewis, S. McC. Lindsay, M. R. Maltbie, T. Marburg, J. Martin, R. C. McCrea, L. G. McPherson, R. Meeker, H. C. Metcalf, B. H. Meyer, C. W. Michael, W. E. Miller, C. W. Mixter, F. W. Moore, J. M. Motley, A. C. Muhse, H. R. Mussey, W. S. Myers, S. N. D. North, E. T. Peters, G. A. Plimpton, C. L. Raper, W. Z. Ripley, M. H. Robinson, L. C. Root, V. Rosewater, W. A. Schaper, H. R. Seager, A. Shortt, C. W. Spencer, J. O. Spencer, W. P. Stearns, A. H. Stone, N. I. Stone, G. S. Sumner, F. W. Taussig, H. C. Taylor, F. B. Thurber, H. R. Trumbower, C. W. A. Veditz, G. O. Virtue, F. Walker, U. G. Weatherly, A. F. Weber, D. C. Wells, M. West, W. E. Weyl, H. White, R. H. Whitten, W. F. Willcox, C. C. Williamson, W. W. Willoughby, G. G. Wilson, D. L. Wing, C. R. Woodruff, C. W. Wright, A. A. Young. Total, 122.

### PROGRAM.

First Session-Wednesday, 10 A. M., December 27th.

Donovan Room, McCoy Hall.

Address of Welcome. President IRA REMSEN of the Johns Hopkins University.

### ECONOMIC THEORY.

The Present State of the Theory of Distribution. JACOB H. HOL-LANDER, Johns Hopkins University.

Discussion by John B. Clark, Columbia University; Roswell C. McCrea, Bowdoin College; Frank A. Fetter, Cornell University; Simon N. Patten, University of Pennsylvania.

1 P. M., Luncheon, McCoy Hall.

Second Session-Wednesday, 2.30 P. M., December 27th.

Donovan Room, McCoy Hall.

THE REGULATION OF RAILWAY RATES.

### Papers by:

- I. HUGO R. MEYER, University of Chicago.
- 2. B. H. MEYER, State Railway Commission, Wisconsin.

Discussion by Frank H. Dixon, Dartmouth College; L. G. McPherson, Johns Hopkins University; Don C. Barrett, Haverford College; Willard Fisher, Wesleyan University.

4.30 to 5.30 P. M. Reception by Mrs. Charles J. Bonaparte, 601 Park Avenue, to the ladies of the Association.

# / Third Sessian-Wednesday, 8 P. M., December 27th.

# Donovan Room, McCoy Hall.

Presidential Address: The Love of Wealth and Public Service; by F. W. TAUSSIG, Harvard University.

9 P. M. Reception to the gentlemen of the Associations by Mr.

THEODORE MARBURG. Reception to the ladies of the Association at the House of the Maryland Society of the Colonial Dames of America, 417 N. Charles Street.

I Fourth Session-Thursday, 10 A. M., December 28th.:

Donovan Room, McCoy Hall.

JOINT SESSION WITH THE AMERICAN POLITICAL SCIENCE ASSOCIATION.

THE CASE FOR AND AGAINST MUNICIPAL OWNERSHIP.

### Papers by:

- I. FREDERICK C. Howe, Cleveland, O.
- 2. WINTHROP M. DANIELS, Princeton, N. J.

17 , 5

Discussion by Leo S. Rowe, University of Pennsylvania; John A. Fairlie, University of Michigan; Milo R. Maltbie, New York City; Thomas K. Undahl, Coloredo College; Robert C. Brooks, Swarthmore College.

I P. M. Luncheon tendered to the Associations by the Right Reverend WILLIAM PARET and Mrs. PARET, at the Episcopal Residence, 1110 Madison Avenue.

Fifth Session-Thursday, 2.30 P. M., December 28th.

### Donovan Room, McCoy Hail.

# LABOR QUESTIONS.

- The Quantitative Study of the Labor Movement. H. W. FAR-NAM, Yale University.
- Discussion by CHARLES P. Neill, United States Commissioner of Labor.
- Violence in Labor Disputes. Thomas S. Adams, University of Wisconsin.
- Discussion by NICHOLAS P. GILMAN, Meadville, Pa.; GEORGE E. BARNETT, Johns Hopkins University; WILLIAM B. PRESCOTT, ex-President of International Typographical Union.
- 8 P. M. Council meeting of the American Economic Association. 10 P. M. Smoker at the Hotel Belvedere.
- Reception to the ladies of the Association by Mrs. WILLIAM M. ELLICOTT, at the Arundell Club, 1000 N. Charles Street.

# Sixth Session—Friday, 10 A. M., December 29th.

# Donovan Room, McCoy Hall.

### THE ECONOMIC FUTHRE OF THE NEGRO.

### Papers by:

- 1. W. E. B. Dubois, Atlanta University.
- 2. ALFRED H. STONE, Washington, D. C.

Discussion by Charles L. Raper, University of North Carolina; Theodore Marburg, Baltimore; M. B. Hammond, Ohio State University; R. C. Bruce, Tuskegee Institute.

# COUNCIL MEETING AT BALTIMORE, MD.

# -DECEMBER 27, 1905.

The Council met in Donovan Hall in the Johns Hopkins University building, at the close of the opening session, 12 M., December 27th.

On motion of Mr. Carver the reading of the Minutes of the previous meeting was passed as they had been printed in the published Proceedings.

The reports of the Secretary and Treasurer as follows, were read and accepted:

REPORT OF THE SECRETARY TO THE COUNCIL OF THE AMERICAN ECONOMIC ASSOCIATION.

# - Dесемвек 28, 1905.

The Executive Committee at its meetings in March and November acted upon the questions referred to it by the Council at the last annual meeting. It reports that it deems it inadvisable at present to arrange a joint meeting with the American Association for the Advancement of Science. On the resolution calling upon the National Government to undertake certain investigations, it re-

ports that in the sense of the Committee no sweeping recommendation is likely to be effected and that such influence as the Association might possess in directing government statistical inquiry into specific channels would be lessened by so general a resolution.

The Committee has considered, as it was directed, the revision of the Constitution, and is prepared to submit a draft with proposed changes.

The subject of a journal to be established and conducted by the Association was discussed at length and considerable correspondence was carried on to gather information on the subject. The chairman of the Publication Committee will have something to report in this connection.

The President was authorized to confer with the Historical and with the Political Science Associations in regard to time and place of meeting in 1906. The results of the conference will be reported to the Council.

There are this year, at last, three standing committees for the study of special topics, the Committee on Municipal Accounting and Finance, Frederick A. Cleveland. Chairman; the Committee on Index Numbers, Carl C. Plehn, Chairman; and the Committee on the Economic Position of the Negro, Walter F. Willcox, Chairman. The Committee first named has a report to present to the Council, and the work of the last-named Committee is represented in the sessions of this meeting.

Three numbers of the publications have been issued and the fourth is almost entirely in type and will be published in about two weeks.

At the date of this report there are 1,032 members and subscribers, this being an increase of 3 as compared with 1,029 reported last year. During the present year 8 members have died (of whom two were life members), 32 resigned, 5 were dropped; the total loss of members

being 45 and of subscribers 6. There have been added 52 new members (of whom 1 was a life member) and 2 subscribers.

The names of three of these who have been removed from our ranks by death within the year are especially noteworthy. The first was a young academic economist, John E. George, who yielded bravely to a long and painful illness, within a few weeks of the Chicago meeting which he had so longed to atend. He was a man beloved of his friends, and whose intellectual integrity no less than his intellectual vigor, gave promise of a larger usefulness to our science.

Soon after was stricken W. H. Baldwin, Jr., a life member of this Association, a business man, a man of the world, a man in his prime, a man of large public spirit, of helpful civic activity, of cordial interest in all things human.

Another of our younger academic members, James Harris Curran, professor at Tome Institute, had been engaged for some time before his unexpected death, in bibliographical work for our Publication Committee. A promising and useful career is thus untimely ended.

And lately death has claimed one of our deans, Edward Atkinson, long a member of this Association, and in former years not infrequently present at our meetings. Ripe in years, he lived a life of earnest conviction and of strenuous activity. His practical sense, his knowledge of practical business, his economic insight, which have largely contributed to the cause of truth, are now lost to American scholarship.

This is the fifth report of the present Secretary and it will be his last. It has been his privilege to watch the Association grow from a membership of 802 to one of over a thousand and to see the balance in its treasury grow from \$1,372 ao \$4,803. At the same time the in-

fluence and activity of the Association have grown in equal proportion.

The retiring Secretary may be permitted to apply to his official demise the sentiment of Stevenson: "Gladly I lived and gladly die, and I lay me down with a will." His period of over four and a half years of service has been marked by many wearing duties, but also by many pleasant personal relations which far more than compensated the labors of his office. He shall miss the many friendly greetings appended to remittances—(only a brave economist can smile while paying a bill, a sort of a economic morituri salutamus)—but he will carry with him through life the memories of these five years in the office whose duties he now willingly, yet regretfully, will transfer to other shoulders.

Respectfully submitted,

sh on hand data of last report

FRANK A. FETTER,

Secretary.

### TREASURER'S REPORT.

# Debits.

| Cash on hand date of last report     |            |
|--------------------------------------|------------|
| Sales and subscriptions:             |            |
| Macmillan\$ 687 89                   |            |
| Secretary's office 342 49            |            |
| Reprints 85 89                       |            |
| Life member 50 00                    |            |
| Annual dues                          |            |
| Interest 52 50                       |            |
| Total current receipts3,444 52       |            |
| Credits.                             |            |
| Expense of publication\$1,612 66     |            |
| Expense of 17th Annual Meeting 59 50 |            |
| Secretary and Treasurer 528 98       |            |
| Total current expenses               | \$2,201 14 |
| Total cash balance                   | 4,803 68   |
|                                      |            |

\$7,004 82 \$7,004 82

All bills presented to date have been paid. There are outstanding a few minor items aggregating less than \$100, and the bill for the fourth number of the publications now in press.

The progress of the treasury as shown in the five reports made by the present Treasurer has been as follows:

| and the state of t | Cash<br>Balance. | Increase over preceding year. |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-------------------------------|
| Dec., 1901                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | \$1,522 42       | \$149 61                      |
| " 1902 · · · · · · · · · · · · · · · · · · ·                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2,188 92         | 666 50                        |
| 4 1903                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 3,040 10         | 851 18                        |
| " 1904                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 3,560 30         | 520 20                        |
| " 1905                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 4,803 68         | 1,243 38                      |

This increase is a result of the increase in membership and the "economies of large production." The Association had been both economically and efficiently managed for a number of years while the membership stood almost unchanged at a little less than seven hundred. the officers began to make special efforts to enroll new members, and despite many changes the number has been maintained at about a thousand for the past three years. Although the Association has published liberally in this period, the funds on hand have steadily grown. Treasurer need hardly urge that it is not the function of a scientific association to accumulate a large cash balance, but that it rather should spend its entire revenues as wisely as possible to advance the objects of its foundation. The publication of the list of doctoral dissertations, the enlargement of the handbook by adding much conveninet information, and the appropriation of \$500 as a beginning in the preparation of bibliographical material, are steps in the direction of spending our income while enlarging the service of the Association to its members. But much more can be done to increase the Association's usefulness, and as this grows, so will grow the membership giving still larger funds to employ for advancing the objects of the organization.

Respectfully submitted,

FRANK A. FETTER,

Treasurer.

Mr. Gardner moved the appointment of committees on auditing the Treasurer's accounts, on nominations, and on resolutions. Carried.

The committees appointed by the President were as follows: on nominations, J. B. Clark, J. R. Commons, D. Kinley, J. H. Hollander, H. B. Gardner. On auditing of accounts, Theodore Marburg, F. A. Cleveland, W. M. Daniels. On resolutions, H. R. Seager, T. S. Adams, H. C. Emery.

The amendment of the constitution was taken under consideration, and the revised draft as prepared by the Executive Committee, under instructions from the Council a year ago, was, after further amendment, adopted. (See full text above, p. 3).

The chairman of the Publication Committee made a report of the publication activity of the past year, which was accepted. The President reported from the Executive Committee on the question of time and place in favor of a meeting in Providence in connection with the Historical and other Associations in 1906.

Moved by Mr. Ripley that the Council confirm the recommendation and adopt Providence as the place of meeting in 1906. Carried.

W. F. Wilcox, chairman of the committee on economic condition of the negro, moved that that committee be now discharged. Carried.

The committee on municipal accounting through Mr. Daniels reported as follows:

The Committee on Municipal Accounting begs to re-

port progress, and requests to be continued in order that it may cooperate with similar bodies to secure uniform phraseology and forms of accounting in municipal finance.

W. M. Daniels,

for F. A. CLEVELAND,

Chairman.

The President then called a meeting of the entire Association at the Merchants' Club for Thursday evening, December 28th, at 8 p. m.

The meeting adjourned.

### MEETING OF THE ASSOCIATION.

The meeting was called to order by President Taussig, at the Merchants' Club, at 8.30, Thursday, December 28, 1905.

Mr. Gardner reported on behalf of the Executive Committee that the matter of the publication of a Journal was still under consideration, that the committee had made some progress in ascertaining the cost, and asked to be continued for the next year with the same powers it had been given a year ago.

On motion the committee was so continued.

The nominating committee reported the names of the following officers: President, Jeremiah W. Jenks; First Vice-President, Charles S. Fairfield; Second Vice-President, S. N. D. North; Third Vice-President, Carl C. Plehn; Members of Executive Committee for three year term, Frank A. Fetter and B. H. Meyer; for two year term, H. C. Emery and John H. Gray; for one year term, Frank H. Dixon and Henry R. Seager; for mem-

bers of Publication Committee for three years in place of D. R. Dewey and W. A. Scott, whose terms expired. Charles J. Bullock and W. A. Scott.

On motion, the Secretary was instructed to cast one ballot for these names. The motion was unanimously carried, and the officers were declared elected.

The Auditing Committee, through the chairman, Theodore Marburg, reported that the accounts of the Treasurer had been examined and found correct. On motion, the report was unanimously accepted.

On motion, the constitution as amended at the Council meeting was unanimously adopted.

The meeting adjourned at 9 P. M.

At the final session of the Association, held Friday, December 29th, at 12 M., it was moved by Mr. Carl Kelsey that the Executive Committee bring to the attention of the Carnegie Institution the importance of a thorough investigation of the conditions affecting the welfare of the negro.

A message from a group of California members was read by the President as follows:

Dear Professor Taussig:

Will you convey, in such manner as you best can, to our colleagues of the Economic Association our best wishes for a good meeting and our sincere regrets that we are unable to be present at the annual meeting. We have assembled together to console ourselves as best we can for the lack of your society.

Jointly sincerely yours,

CARL C. PLEHN,
HENRY R. HATFIELD,
WESLEY C. MITCHELL,
H. A. MILLIS,
A. C. WHITAKER,
A. C. MILLER, in absentia.

On motion, the Secretary was instructed to acknowledge the note of greetings and congratulate Mr. Plehn on his election as Vice-President. Accordingly the following telegram was sent:

Prof. C. C. Plehn, Berkeley, Cal., The Association congratulates you on your election as Vice-President and sends greetings to your California colleagues.

F. A. FETTER, Secretary.

The committee on resolutions reported as follows:

Your committee begs to submit the following resolutions and to recommend their adoption by the Association:

Whereas, The success and profit of the eighteenth annual meeting of the American Economic Association has been in large measure due to the efficient work of the members of the local Committee of Arrangements and the cordial hospitality of the President and officers of the Johns Hopkins University, the members of the Political Economy Club of Baltimore, the boards of managers of the Arundell and the University Clubs, and of the Maryland Society of the Colonial Dames of America, of Mrs. Charles T. Bonaparte, Mrs. William M. Ellicott, the Right Reverend William Paret and Mrs. Paret, and our esteemed fellow-members, Theodore Marburg, George Cator and William H. Buckler, be it

Resolved, That the Association hereby extends its hearty thanks to these several individuals and organizations for the hospitalities which it has enjoyed, and

Resolved, That the Secretary be directed to transmit a copy of this resolution to those to whom it is addressed.

The retiring President, Mr. Taussig, then introduced the President-Elect, J. W. Jenks, who responded in a few appropriate words on the honor that had been conferred upon him.

On motion of Mr. Taussig, the meeting unanimously adopted a resolution of appreciation of the services of the retiring Secretary and Treasurer.

The meeting adjourned at 12.30.

# THIRD LIST OF DOCTORAL DISSERTATIONS IN POLITICAL ECONOMY IN PROGRESS IN AMERICAN UNIVERSITIES AND COLLEGES, JANUARY 1, 1906.

Note.—The appended list has been compiled from responses received to a circular of inquiry addressed by the Publication Committee to all institutions represented in the Council of the American Economic Association. Students not in actual residence are distinguished by an asterisk [\*]. Students whose period of continuous non-residence exceeds three years are omitted from the list. The last date given is the probable date of completion.

The first list of this kind was dated January 1, 1904, and was sent to all members, but not regularly bound in the publication. The second list, dated January 1, 1905, is included in Third Series, Vol. VI, p. 737.

#### BRYN MAWR.

MARIAN PARRIS, A.B., Bryn Mawr College, 1901. Certain psychological laws in economics. May, 1906.

### COLUMBIA.

- JIROSHI ABURATANI, A.B., Doshisha College, Japan, 1892. The evolution of the family, marriage and divorce in Japan since the feudal period. 1906.
- EUGENE EWALD AGGER, A.B., A.M., University of Cincinnati, 1901, 1902. The budget in the American Commonwealths. 1906.
- \*ABRAHAM BERGLUND, A.B., University of Chicago, 1904. The United States Steel Corporation. 1906.
- NORRIS ARTHUR BRISCO, A.B., A.M., Queens University, 1898, 1901.

  The economic policy of Robert Walpole. 1906.
- JOHN MORRIS CLARK, A.B., Amherst College, 1905. The possibility of improvement in the principles of railway rate-fixing.
- \*MICHAEL M. DAVIS, JR., A.B., Columbia, 1900. The sociological theories of Gabriel Tarde. 1906.
- \*ALLEN BARBER EATON, Ph.B., Beloit College, 1899; A.M., Yale, 1902. Minor political parties in the United States. 1906.
- LUCILE EAVES, A.B., Stanford University, 1894. The use of history for social training. 1906.
- PAUL LEROY FOUCHT, A.B., University of Chicago; A.M., Ohio Northern University. Combinations in the sugar industry. 1907.

- HARRY GEORGE FRIEDMAN, A.B., University of Cincinnati, 1904. Financial history of Massachusetts since 1860. 1906.
- JAMES HENRY GILBERT, A.B., University of Oregon, 1903. Trade and currency in early Oregon. 1907.
- \*John Lewis Gillin, A.B., Iowa College, 1895; A.M., Columbia University, 1903. The Dunkers in Europe and in America. 1906.
- \*WILLIAM BUCK GUTHRIE, B.S., Lenox College, 1893; Ph.B., State University of Iowa, 1895. Introduction to the study of socialism. 1906.
- FRANK HAMILTON HANKINS, A.B., Baker University, 1901. Adolphe Quetelet as statistician. 1906.
- ROBERT TUDOR HILL, A.B., University of Nebraska, 1903. Migration, adaptation and survival of puritan institutions in the United States.
- MEYER JACOBSTEIN, A.B., A.M., Columbia University, 1904, 1905.

  The tobacco industry in the United States.
- SAMUEL LUCAS JOSHI, A.B., Madras University, 1896; A.M., Columbia University, 1905. The economic history of India.
- EDWIN GIFFORD LAMB, A.B., Stanford University, 1904. The salvation army's social work. 1907.
- \*JAMES P. LIGHTENBURGER, A.B., Eureka College, 1893; A.M., Hiram College, 1902. Divorce in the United States. 1906.
- PAUL U. Kelloce, Industry and a community; a study of organization in Greenwich village.
- ELY ATHAM MERCHANT, A.B., Amherst College, 1905. The railroad problem.
- \*BERTHA HAVEN PUTNAM, A.B., Bryn Mawr College, 1893. The enforcement of the statute of laborers. 1906.
- GUY EDWARD SNIDER, B.L., University of Wisconsin, 1901; A.M., University of Missouri, 1902. The taxation of railway gross receipts. 1906.
- \*JOSEPH HARDING UNDERWOOD, A.B., Western College, 1902; A.M., State University of Iowa, 1904. The socialization of ownership.
- ETHEL DODGE WILCOX, A.B., A.M., Columbia, 1903, 1905. Social factors of reconstruction in the south.
- \*DAVID LAFOREST WING, B.S., Mass. Institute of Technology, 1898.

  The greenback movement in Maine. 1907.
- Howard Brown Woolston, A.B., Yale, 1898; A.M., Harvard, 1902.

  Descriptive sociology of Manhattanville, New York. 1907.

### CORNELL.

- EMANUEL ALEXANDER GOLDENWEISER, A.B., Columbia, 1903. Russian immigration to the United States. 1907.
- CHARLES CLIFFORD HUNTINGTON, B.Ph., Ohio State University, 1902; A.M., same, 1903. A history of banking in Ohio. 1906.

- Burdette Gibson Lewis, A.B., University of Nebraska, 1904. The mayoralty of New York City; A study in city government.

  To be finished June, 1907.
- OLIVER CARY LOCKHART, A.B., Indiana University, 1903; A.M., same, 1905. Taxation in American cities. 1907.
- \*EDWIN WALTER KEMMERER, A.B., Wesleyan University (Conn.), 1899. Money and credit instruments in relation to general prices. Completed. To be published 1906.
- GEORGE PENDLETON WATKINS, A.B., Cornell, 1899. The Economic causes of great fortunes in the United States. 1905.
- WALTER LINCOLN WHITTLESEY, A.B., University of Oregon, 1901.

  The public lighting corporations of New York City. 1907.

# DENVER.

JAMES WILLIAM ELLISON, A.B., University of Denver, 1902; A.M., same, 1903. Financial History of Colorado. 1907.

# HARVARD.

- STUART DAGGART, A.M., Harvard, 1904. Railroad reorganization. June, 1906.
- JOHN DANIELS, A.M., Harvard, 1904. The negro in Boston. A study of the influence of environment on heredity. June, 1907.
- JAMES FORD, A.B., Harvard, 1905. The standard of living in East Cambridge. June, 1907.
- JOSEPH CLARENCE HEMMEON, A.M., Harvard, 1904. The organization and development of the English postoffice. June, 1906.
- CHARLES PHILIP HUSE, A.B., Harvard, 1904. The financial history of Boston, 1821-1860. June, 1907.
- FRANCIS WAYLAND JOHNSTON, A.M., Harvard, 1905. Ricardo and Malthus. June, 1907.
- George Randall Lewis, A.B., Harvard, 1902. Mines and mining in mediæval England. June, 1906.
- SELDEN OSGOOD MARTIN, A.M., Harvard, 1904. The tobacco industry in the United States. June, 1906.
- MRS. LOIS KIMBALL MATHEWS, (Radcliffe College), A.M., Stanford, 1904. A study of the spread of population in the United States. June, 1906.
- WILLIAM ALFRED MORRIS, A.B., Stanford, 1901. The Frankpledge System. June, 1907.
- Amour Payson Usher, A.M., Harvard, 1905. The French corn laws, 1515-1789. June, 1907.
- GRACE FAULKNER WARD (Radcliffe College), A.M., Radcliffe, 1905.
  History of the Levant Country. June, 1907.
- CHESTER WHITNEY WRIGHT, A.M., Harvard, 1902. The economic history of wool growing in the United States. June, 1906.

### IOWA STATE UNIVERSITY.

- CLARENCE W. WASSAM, A.B., University of Iowa, 1900; A.M., same, 1902. The finances of the commonwealth of Iowa. 1907.
- Forest C. Ensign, A.B., University of Iowa, 1897; M.A., 1900. Child labor laws and compulsory education. 1898.

### JOHNS HOPKINS.

- \*GOSTA ADOLSSON BAGGE, Filosofie Kandidat, Royal University of Upsala, 1904. Trade unionism in Sweden.
- SOLOMON BLUM, A.B., Johns Hopkins University, 1903. The shop regulations of American trade unions.
- \*WILLIAM H. BUCKLER, A.B., University of Cambridge, 1890, and LL.B., 1901. Trade unionism and the standard wage.
- THEODORE W. GLOCKER, A.B., Johns Hopkins University, 1903. The structure of American trade unions.
- Hugh S. Hanna, A.B., Johns Hopkins University, 1899. The financial history of Maryland. 1906.
- FREDERICK W. HILBERT, A.B., Randolph-Macon College, 1896, and A.M., 1897. Trade agreements in the United States. 1906.
- JAMES B. KENNEDY, A.B., Erskine College, 1892. The beneficiary features of American trade unions.
- \*WILLIAM KIRK, A.B., Johns Hopkins University, 1902. Labor federations in the United States. In press, degree awarded.
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OF

# THE GROSS RECEIPTS

OF

# RAILWAYS IN WISCONSIN

BY

GUY EDWARD SNIDER

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**GUY EDWARD SNIDER** 

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#### INTRODUCTION.

With the one exception of real estate, railways are the most productive source of revenue for our state and local governments. Owing to the complex organization of the industry, the problem of the method to be employed in securing this revenue has been a difficult one, resulting in the trial of many and devious methods. It was said a quarter of a century ago that "there is no method of taxation possible to be devised which is not at this time applied to railroad property in some part of this country." The two most noticeable methods employed is the ad valorem tax and the tax on earnings. Although many modifications of the tax on earnings have been tried, of these that upon gross earnings has been the most generally accepted.

The origin of this tax is difficult to trace. While it may have been suggested by the tax on gross premiums of insurance companies, it is more probably a descendant of the old tax on stage coaches in England. It was first applied to railways in the charter tax of the Illinois Central Railway, and has been in operation on that road since 1851. Suggestions for its adoption were subsequently made in other states, and in 1854 it was made the sole method of taxing railway property in Wisconsin.

Since its first employment the system has had a varied career. It was employed for a short time in Iowa, but was soon declared unconstitutional; in 1873 it was adopted in Minnesota; in 1874, in Michigan. Other states have since adopted it, some, as for instance, Vermont, putting it on the same footing as, and permitting its substitution for, the ad valorem tax. In others

the tax on gross earnings is used as a supplement to a property tax, and in still others as a method of securing revenue to pay the expenses of the State Railroad Commission.

This essay is an historical and a critical study of the tax on gross earnings as it developed in Wisconsin, with side lights from the experience of other states. To supplement and contrast with the operations of the tax on gross earnings, a chapter on the typical workings of the most prominent form of the ad valorem method is introduced.

#### CHAPTER I.

# THE CONSTRUCTIVE PERIOD IN WISCONSIN. INTRODUCTION.

The distinctive feature of the period of construction from 1850 to 1870 was taxation for railways. Railways, the new and mighty factor in industry, must be secured at any price. The movement westward was in full swing; settlers were pouring into the state. The increase in the population from 1846 to 1850 was nearly 900 per cent.1 The greater number of these immigrants were farmers. Already there was a surplus of agricultural products in local markets, and transportation was so difficult and expensive that often "crops were left to rot in the fields.2" Cheap transportation was the one necessary factor for the development of the country.<sup>8</sup> The merchants and manufacturers in the eastern, the farmers in the central, and the miners in the western parts of the state suffered from the lack of it. Dr. Libby has pointed out how the manufactured goods from the east, and the lead from the west drew together the interests of the two sections, and advanced the agitation for a connecting railroad.4

Although there was a desire to foster and encourage the construction of railroads, the state could not, without a constitutional amendment, lend its credit for internal

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<sup>&</sup>lt;sup>1</sup> Seventh U. S. Census.

<sup>&</sup>lt;sup>2</sup> Wisconsin Herald, June 10, 1848.

<sup>&</sup>lt;sup>a</sup>Report of Committee on Land Limitations, Wisconsin Assembly 1851. Also Report of Committee on Railroads, ibid, March 29, 1855.

<sup>a</sup>Libby. The Significance of the Lead and Shot Trade in Early Wisconsin History. Wisconsin Historical Collections, Vol. VIII.

improvement. Aid, if given, must come from the local governments. The great advantage over rivals, accruing to the towns and counties which should secure railways, led to bitter struggles between communities. In fact, this rivalry was one of the greatest factors in our early railway history.<sup>5</sup> At the least hope or suggestion of a railway this competition showed itself. Towns, cities and counties in their eagerness would have bills rushed through the legislature granting permission to issue bonds to aid in the construction of the railway,6 the bonds to be exchanged for railway stock. Even villages. hoping ultimately to pay for the bonds from the earnings of the stock, pledged their taxes for thousands of dollars. The local governments soon found themselves heavily in debt; the stock not paying immediate dividends, the interest on the bonds (and later the principal) had to be paid from the local taxes. Thus it was that the early period of construction was characterized by taxation for railways.

#### I. THE GENERAL PROPERTY TAX.

The Wisconsin laws relating to taxation in 1849 were either adaptations of statutes from the older states, principally New York, or new statutes created to meet new social and industrial conditions. The principal industry of the state was agriculture. Manufacturing establish-

For comments on this rivalry see B. H. Meyer's "History of Early Railroad Legislation in Wisconsin. Wisconsin Historical Collections, Vol. XIV, pp. 254 et seq.

<sup>&</sup>lt;sup>6</sup>B. H. Meyer in the "Early General Railway Legislation in Wisconsin, 1853-1874," has collected and analyzed the mass of acts thus passed. Transactions of the Wisconsin Academy of Science, Arts and Letters. Vol. XII, Part I, p. 337.

The territorial laws on taxation were copied from Michigan, but in the revision of the laws in 1849 the New York statutes were copied. Report of Wisconsin State Tax Commission, 1898, p. 23.

ments were few and produced (with the exception of the lead industry) for home consumption only. A simple system of taxation was adequate. The general property tax sufficed to reach all property with an appearance of equality and justice. The advent of the railway brought new industrial conditions and a new organization of property. It built cities and towns, linked East and West, factory with farm, and caused land values to increase manyfold.

The desire to encourage the construction of railways manifested itself in various ways. As an example, the first railways were exempt, during their construction, not by law, but by practice, from taxation. The pioneer tax laws were adopted for and adapted to an individual organization of property. The administration of these laws depended upon the energy of the local assessor and the ability of the County Board of Supervisors. The railways were subject to taxation under this general property tax law.

The first railway constructed in Wisconsin, The Milwaukee and Mississippi, began operations between Milwaukee and Waukesha in 1857. The same year, the Board of Supervisors of Milwaukee County, after consulting the county attorney, assessed the railway property under the general property tax law, but later the assessment was stricken from the rolls as referring to real estate insufficiently described.<sup>9</sup>

In 1852 the "road within the city" of Milwaukee was assessed by the city assessor at \$5,000, and a tax of \$5.05

<sup>&</sup>lt;sup>8</sup> Wisconsin administrative machinery corresponds to the general methods followed in the United States under the general property tax laws. For statistics giving organization and duties, see Revised Statutes of Wisconsin, 1849, Chapter 15.

<sup>•</sup> Proceedings of the Board of Supervisors of Milwaukee County, October, 1851. Manuscripts in the vaults of the County Clerk.

collected.10 or four mills on the cost of depot and grounds, exclusive of the right of way. Other property paid sixteen mills on the dollar.11 In 1853 the railway property was assessed as personal, rather than real property, under the section of the law making the personal property of a corporation taxable in the taxing unit in which its home office was located. The real property escaped taxation. The town of Wauwatosa, the only other taxing unit in Milwaukee County, through which the railway passed, first taxed the railway property in 1852. Here the real property was described by sections, rods, and acres, and the right of way, only seven miles long, was assessed in nine different sections (at so many different values per acre), valuations in adjacent sections varying as much as twelve and one half per cent. The equalized value averaged \$2,340.65 per mile, on which a tax of \$16.18 per mile of right of way was levied.12

There was a disagreement from the beginning in regard to taxation between the railway company and Waukesha County.<sup>18</sup> The railway company neglected to pay its taxes, claiming that the assessments were disproportionate in the different towns. As a consequence, in two towns the right of way was sold for taxes.<sup>14</sup> The Board of Supervisors realizing the inequalities of the assessments, petitioned <sup>15</sup> the legislature and obtained a law

<sup>&</sup>lt;sup>16</sup> Assessment Rolls of the County of Milwaukee, 4th ward. City of Milwaukee, 1852. Manuscripts in vaults of the Treasurer of Milwaukee County.

<sup>&</sup>lt;sup>21</sup> Determined from the Assessment Rolls of Milwaukee County, 1852, and the report of the Secretary of State, 1854. Appendix, Assembly Journal, 1855.

<sup>&</sup>lt;sup>18</sup> Assessment Roll of Town 7, Range 21, Milwaukee County, 1852. Manuscripts in vaults of County Treasurer.

<sup>&</sup>lt;sup>18</sup> Waukesha Democrat, December 14, 1852.

<sup>&</sup>quot; Ibid.

<sup>&</sup>lt;sup>16</sup> Daily State Journal, Madison, January 29, 1853.

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in 1853 giving them power and authority to equalize assessments on rail-and plank-roads. 16

The fervent efforts to secure the railways had not led the towns to anticipate the tax problem. The description of the right of way as so many acres, the variation of the assessed value in different units, the assessment one year as real, the next as personal property, the activity of numerous local officials were all undesirable elements in the taxation system. As the possibility of a repetition of the sale of their right of way or a levy upon their rolling stock was not an attractive prospect to the railway companies, they instigated a movement to secure a change in the laws. This was no difficult matter, for those counties not having railways—and they were the great majority at this time—were willing to make any concession that might hasten or encourage railway construction. The prospect of losing the taxes from railway property which might be within their boundaries in the future was not of moment: it was their desire to encourage construction. Governor Barstow, in a message to the General Assembly in 1854 says:-

"In our youthful state, it becomes the duty of those having committed to their charge its interests, to foster by all reasonable and proper means, those undertakings which will best tend to bring into use our varied resources and to be wary of throwing impediments in the way which might deter capitalists from investing their means in such improvements as are best calculated to effect this result. Wisconsin only needs the opening of avenues of communication, to increase in population and substantial wealth, in a manner unexampled in the history of Western States—so far as the enactment of constitutional laws can relieve the different railroads from taxation during their construction, I recommend their passage, as one of the means of encouragement within your power to render."

<sup>&</sup>lt;sup>16</sup> Laws of Wisconsin, 1853, Chapter 66.

## II. THE TAX ON GROSS EARNINGS.

It was clearly the policy of the state to encourage and foster the construction of railways; to extend such aid to them as the constitution would permit. This policy and the desire of the railway company that their property should be taxed in a class by itself led to the law of 1854.<sup>17</sup> This was passed by the Legislature without much comment, at least on the floor, or by the newspapers, and was entitled "an act taxing rail- and plankroads." The following are the principal sections of the act.

Section 1. Railway companies were to make an annual statement of gross receipts, before January 19th of the following year, to the State Treasurer.

Section 2. "It shall be the duty of the said railway companies and plank-road companies to pay or cause to be paid to the treasurer of the state for the use of the state, on or before the tenth of January in each year, a sum equal to one per centum of the gross earnings of their respective roads so returned, which amount of tax shall take the place and be in full of all the taxes of every name and kind upon said roads, or other property belonging to said companies, or the stock held by individuals therein, and it shall not be lawful to levy or assess thereupon any other or further assessment or tax for any purpose whatsoever; but when a railroad or plank-road lies partly within this state and partly in another state or territory the company shall pay such proportion of one per centum upon the gross earnings of the whole road so returned, as the length of that portion of the road within the state bears to the whole length of the said road."

<sup>&</sup>lt;sup>37</sup> It is interesting to note that a proposition was made that railways be exempt during construction, and thereafter be taxed on net income. See Resolution of January 28, 1853, Assembly Journal.

Section 3. \$10,000 was to be forfeited by railroad companies neglecting provisions of this act. Section 5 provided that when companies failed to make returns, the state treasurer was to ascertain gross earnings, levy one per cent., 18 and when taxes were not paid, to seize and sell the property after ten days' notice. 19 The act went into force April 10th, 1854.

The result was to reduce the total taxes of railway corporations to less than half the tax formerly paid. Though there was little comment throughout the state by the newspapers, this omission was probably due to both ignorance of the true effect of the act, and to each paper's intense desire to get a railway through its own locality, all of which resulted in lower taxation for railways. The people of Waukesha, one of the few counties having a railway within its limits, however, appreciated the effect of the act. The newspapers of that locality reflect the bitter feeling engendered by the cutting off of an important source of revenue. One editor writes:—"The following is perhaps a fair specimen of the Wisconsin Legislature, and shows to some extent how much the Legislature was controlled by railroad and other monopolies" (quotes railroad tax laws). "Where is the farmer or mechanic who would not be glad to shell out in full for all taxes at the same rate? But if all were taxed only one per centum on their income the members of the Legislature would be minus their pay. This, of course, would not suit—the heavy per cent. must be drawn from some source, and it is invariably the case, those least able

<sup>&</sup>lt;sup>38</sup> The bill as first introduced placed the per centum at one and one-half per cent. on gross receipts. An amendment proposing one and a half per cent. state purposes and one and a half per cent. for town and county purposes, in the towns and counties through which the road ran was lost. And the bill was finally passed, the clause being amended to one per cent.

<sup>&</sup>lt;sup>10</sup> Laws of Wisconsin, Chapter 74.

to pay any have to pay the most. Wisconsin has been peculiarly cursed with a batch of biased legislation during the last session." <sup>20</sup>

A convention held in Waukesha to protest against the law resolved "that we are in favor . . . of just and equal laws of taxation, placing on the same level the railroad company and the working farmer," 21

At the annual meeting of the Board of Supervisors of Waukesha County, in November, 1854, about seven months after the above law went into force, the committee on assessments reported that the town assessors had, regardless of the law, assessed the railway property located in their districts, and the committee asked for instructions. The Board then adopted the following resolutions:

"Whereas, a law was enacted by the Legislature of the state of Wisconsin, at its session in 1854, whereby all rail- and plank-roads in said state are relieved from other than state taxation, thus operating unequally and unjustly, and to the injury of those counties through which said roads pass; and whereas the assessors in those towns in this county, through which said roads pass, have assessed said corporations as heretofore, regardless of said law and in full belief that said act is unconstitutional, therefore, Resolved, that a committee of two be appointed by the chair to confer with E. G. Ryan, Esq., and obtain from him a written opinion as to whether said act referred to is in strict accordance with the Constitution of the State, or in direct violation thereof."

In compliance with this resolution, Mr. E. G. Ryan of Milwaukee, one of the able attorneys of the State, prepared an opinion for the Board, expressing his belief that the law was unconstitutional, and that the Board had

<sup>\*\*</sup> Waukesha County Democrat, April 14th, 1854.

<sup>&</sup>lt;sup>21</sup> Waukesha County Democrat, October 11th, 1854.

<sup>20, 1854.</sup> 

power to assess and collect taxes on railway property within the county.<sup>28</sup> He said:—

"... I am clearly of the opinion that the act of the last session, Chapter 74, is unconstitutional, for the following reasons:

1st. Because it assumes to tax railroad and plankroad companies by a special rule differing in rate from the general rule of taxation on other property.

2nd. Because it exempts the property of such railroad and plank-road companies from all taxation unless they are 'earnings,'

4th. Because it exempts the property of such railroad and plank-road companies from all county, town, city and village taxes.

5th. Because even conceding the power of the Legislature to discriminate in taxation between the property of railroad and plank-road companies, and the property of other persons, it assumes to make an unequal and unjust distinction between such companies and their property and does not establish a uniform rule as to them."... "If the act be, as I am of the opinion, unconstitututional and void, it would probably vitiate any tax levied to omit the property exempt under this act, because such omission would tend to raise other taxes."

The Board of Supervisors, acting in accordance with this opinion, and evidently voicing popular feeling, ordered the committee on assessments for 1854 to include in the assessment rolls all railway and plank-road property <sup>24</sup> and the returns were thus made to the Secretary of State, though, contrary to the usual practice, they were not included in the total valuations but entered as separate items.<sup>25</sup> The County Board also agreed to pay all

<sup>&</sup>quot;Waukesha Democrat, December 6th, 1854.

<sup>&</sup>lt;sup>26</sup> Proceedings of the Board of Supervisors in Waukesha Democrat of December 20th, 1854.

<sup>\*\*</sup>Assessment rolls in vaults of Secretary of State. No other county returned on assessment rolls to Secretary of State railway property for taxation.

expenses and costs that accrued to the several towns in collecting the tax on railway property.<sup>26</sup>

The action of the Supervisors received the general approval of the citizens of the county. A meeting of the citizens of the town of Vernon, held to endorse the action of the county supervisors, passed a resolution instructing their representatives in the General Assembly to use all legal means to procure the repeal of the law exempting railway property from town and county taxes.27 sentiment seems to have been, not so much in opposition to the lowering of railway taxes; but to the fact that the taxes were taken away from the towns and counties and the other property had to bear the additional burden. This burden was annually increasing, as the railways added value to the district through which they passed, making property pay a relatively higher state tax than before. The people thought not of the increased value but of the increased taxes and the "railroad debt", the results of the efforts to encourage railway construction.

The railway company refused to pay the taxes levied on their real property in Waukesha county, and the county treasurer advertised the lands of the railway company for sale, to satisfy the delinquent taxes of 1854. In February, 1855, at a special session of the Board of Supervisors, the committee apointed at the regular meeting in 1854 reported that injunctions against the collection of the taxes on railway property by the county treasurer had been issued. The committee was instructed to carry the case through the courts. Meanwhile the town treasurers, against whom no injunction had been issued, were ordered to suspend action until the decision of the

<sup>\*\*</sup> Proceedings of Board of Supervisors. Waukesha Democrat, December 20th, 1854.

Waukesha County Democrat, December 27th, 1854.

Waukesha County Democrat, April, 1855.

courts was made.29 However, previously to this order, the treasurer of the town of Waukesha had levied on property worth at least \$1,500 and sold it for \$500. The Board, through their counsel Mr. Ryan, moved that the injunctions be removed. The court heard the arguments and decided that the law was within the constitutional powers of the legislature and therefore valid.80 The case was carried to the Supreme Court and the decision of the lower court was sustained. The question of validity had centered around the provision in the constitution that "the rule of taxation shall be uniform." Chief Justice Whiton, the author, in the constitutional convention, of the clause relating to uniformity, presided over the Supreme Court. Justice Cole, of the court, was also a member of the Constitutional Convention, and had taken an active part in the discussions on the same clause. other member of the court was Justice A. D. Smith. The court, after due consideration, having overruled the demurrer, thereby holding the law to be constitutional and valid.81 Judge Hubbell was sustained in his decision that the Legislature had power to partially exempt property from taxation; that uniformity in class is what the constitution requires.82

<sup>&</sup>lt;sup>20</sup> Ibid, March 14, 1855.

Am. Law Register, Volume 2, p. 616.

<sup>&</sup>lt;sup>21</sup> 52 Wisconsin 67.

The documents relating to the case were kept, awaiting the writing of the opinion, but this was never done, and they were subsequently lost. Only the attorney's briefs and the statements of the case are preserved.

#### CHAPTER II.

THE DEVELOPMENT OF THE TAX ON GROSS EARNINGS.

I. VALIDITY OF THE "TAX"—SUBSTITUTION OF A "FEE."
INTRODUCTION.

The tax on gross earnings remained in force until 1860. when a change became imperative. In 1859 the question of "uniformity in tax rates" had come before the Supreme Court in a case, in which there was a distinction made between urban and agricultural land in a taxing district. The Court held that the constitution requires an equal and uniform rate and valuation, operating alike on all taxable property throughout the state or municipality within which, or for which, the tax is to be raised; and when the legislature prescribes a different rule it is unconstitutional and void; that the constitution has fixed one unbending uniform rule of taxation for the state, and property cannot be classified and taxed as classified by different rules; that all property must be taxed uniformly or be absolutely exempt.<sup>1</sup>

This decision raised the question of the validity of the law of 1854 taxing rail- and plank roads by a rate and rule different from the rate and rule on other property. Armed with this decision, which warranted the conclusion that the law was unconstitutional, the Winnebago Lake and Fox River Plank Road Company refused to pay taxes in 1859 and 1860. The Attorney General be-

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<sup>&</sup>lt;sup>1</sup> Knowlton vs. Supervisors, 9 Wisconsin 379. (Heard and decided in 1859.)

gan a proceeding in the Supreme Court for a writ of mandamus to compel the officers of the company to make a report and to pay their taxes. The counsel for the company contended that the law was void and they referred to the recent decision of the court to sustain their argument. The Attorney General argued that constitutionality of the law was settled by the court in the case of the Milwaukee and Mississippi Railroad Company vs. the Board of Supervisors of Waukesha County. The legislature being in session and anxiously awaiting the decision, the court made "a speedy decision—in order that the legislature might take such action as might be deemed necessary." The far-reaching effect of the decision if the law was declared unconstitutional was not brought to the court's attention.

Anticipating the decision, members of the legislature were discussing the possible change of the law. They, as well as the railway companies, recognized the necessity, due to the nature of the property, of the business, and the questions of administration arising from these peculiar relations, of putting railway property in a class by itself for the purpose of taxation. These considerations made the majority of the legislature opposed to a return to the old method of local taxation, on assessed value at a uniform rate.

The court's decision, handed down early in the January term of 1860, held that the act of 1854 was unconstitutional and void, violating section I, Article 8, of the constitution: that the "uniformity" required by the constitution means not uniformity of class but equality as to all property taxed: that the rule must be generally applicable to all property. This "does not prohibit the legislature from exempting from taxation such property as they see fit. The one per centum of gross earnings of the plankand railroads required to be paid to the state is a tax

upon the road within the meaning of the constitution although not assessed upon the valuation of the roads. It is not a bonus for the right and privilege granted to construct and maintain the roads in this state, so the payment cannot be regarded as a sum paid for a licnese to do what might not legally be done without it, but its primary object is to raise revenue." <sup>2</sup>

The legislature, accepting the idea that they had power to exempt property from taxation, though disagreeing with the court, inferred that they had power to raise revenue by means of licenses; using both of these powers they produced the law of 1860 exempting all railway property used in the operation of the road from taxation by special assessment <sup>8</sup> and requiring railways to obtain a license, by payment of one per centum of gross earnings, to operate in the state.<sup>4</sup>

As a result of the decision that the law of 1854 was unconstitutional Mr. Kneeland, a property owner in the city of Milwaukee, brought action to restrain the city of Milwaukee from issuing tax deeds for certain property that had been sold for the unpaid taxes of the years 1757, 1858, 1859, holding, that because railway property had been omitted from the assessment for said years the tax was unjust and unequal. He cited the case of Attorney General vs. Plank Road Company to show that such

<sup>&</sup>lt;sup>2</sup> State ex rel Attorney General vs. Winnebago and Fox Lake Plankroad Company, 11 Wisconsin 35.

Laws of Wisconsin, Chapter 173. 1860.

<sup>&</sup>lt;sup>4</sup> Section 1. All railroads organized and operated in this State must apply to the Treasurer of the State for a license to operate their roads "and to pay such a license, to the Treasurer of the State, as a fee or a charge therefor, a sum equal to one per centum of the gross earnings of their respective roads."

Section 2. They must apply and pay for license on or before February 10th in each year, and the State Treasurer shall issue certificate that such payment has been made. Chapter 174, Laws of Wisconsin. 1860. Went into effect March 28th, 1860.

property had been illegally omitted. The Supreme Court sustained his position; declared taxes for the years 1857, 1858, and 1859 invalid because of the unjust burden imposed; reaffirmed that the law of 1854 was unconstitutional and expressed as their opinion that the law of 1860 was also invalid.<sup>5</sup>

The effect of the decision was startling. Taxes for the years 1854 to 1862 in every taxing unit through which the railway passed were illegal and void. The interests involved were immense; as a consequence of the decision, estates and titles would be swept away; counties and towns already heavily in debt would be financially ruined and in their ruin crush every property owner; thousands of dollars would be spent in litigation; to relevy the taxes was impossible,—the citizen could not bear nt. It meant the destruction of public confidence, the stagnation of the state, from which it could not recover for years.

The legislature stood face to face with this problem. They appointed a joint committee to investigate and wrestle with it; and adjourned in order to give the committee time to determine some course of action. The legislature re-assembled and the committee reported that they had decided to frame a bill providing for the relevying of the taxes from 1854 to 1859, when a decision of the Supreme Court <sup>6</sup> "relieved them from the burdensome

Handed down June 2, 1862.

<sup>\*</sup>Judge Paine says: "The principles of our decision will also invalidate the law of 1860, professing to exempt railroad property and then requiring them to pay a license. . . . I am satisfied . . . that . . . this is in substance the same thing as the law of 1854 under a different name. . . . We cannot adhere to our decision in Attorney General vs. Plankroad Company and sustain the legislation of 1860, unless we are prepared to say that the legislature may do indirectly what it can't do directly, that it may by merely calling things by wrong names, sustain the most palpable evasion of a constitutional provision." 11 Wisconsin 517. Decision in January term, 1862.

duty." <sup>7</sup> The Supreme Court on seeing the far-reaching results that would follow from their decision were induced to give the case a new hearing and overrule their first decision upon the ground of stare decisis. They, however, avowed their continued belief as to the unconstitutionality of the law and advised the legislature to change it.<sup>8</sup>

#### II. THE INCREASE IN THE RATE.

For several years the local taxing units through which the railways passed had felt the increasing burden of taxation, principally upon real estate, and had thought it unjust that the railway companies should escape with so light a tax. The feeling of discontent grew; from time to time petitions were sent to the Legislature asking for relief, especially urging that railway property be assessed and taxed in the same manner as other property. In 1850, the general tax laws were revised and modified, and a new law was passed making property returnable under oath.9 The result was an increase of personalty returned from \$98,702,213 in 1857 to \$168,620,233 in 1858. This brought additional pressure on the tax-payers, and their desire to lessen their proportion of the burden of taxation by an increase in the rate of taxation on railways was strengthened.

The fraud and mismanagement practiced by the rail-way companies during their construction created a popular feeling aganist them, especially in those localities where the debt created to assist in their construction was pressing heavily on the property owners. The farmers also had another grievance; they had mortgaged their lands for railway stock and now the eastern capitalists,

Wisconsin Assembly Journal, 1862, p. 1159.

<sup>\*115</sup> Wisconsin 515.

<sup>\*</sup> Chapter 115, Laws of Wisconsin, 1858.

who had purchased the mortgages, were foreclosing. Governor Randall estimated that at least \$5,000,000 of these mortgages were given on land worth \$15,000,000. They were "conceived in fraud, created in fraud, and sold and transferred in fraud." <sup>10</sup> Between five and six thousand men were involved. The laws of 1860 <sup>11</sup> did not satisfy the antagonism to the railways, and it continued to gain in strength.

The Civil War greatly increased the expenses of the state government and the rate of taxation rose rapidly. The one per cent. tax paid by the railway companies was especially obnoxious and the people urged that it should be increased. There were patriotic men in the railway as well as in other business and they also believed that the per cent. should be raised. The feeling is reflected by Mr. L. H. Meyer, President of the Milwaukee and Prairie du Chien Railway Company in the annual report for 1861. He says:—"Under existing laws, railroads are taxed one per cent. on their gross earnings, payable to the state, in lieu of local taxation and in consideration of a yearly license from the state. . . . The tax is moderate. the inducement to make it so has been the depressed and unprofitable condition of railroad property in the state. Good crops and a revival of business have not been without beneficial effects on railroads, and it is no more than right, that as the class of property recovers from its prostration it should bear a greater share of the tax than the present law puts upon it. The only question will be as to the amount levied."12

<sup>&</sup>lt;sup>10</sup> Annual message, 1861, p. 11.

<sup>&</sup>lt;sup>11</sup> The per cent. was not increased, as there was no need of increased revenues. Governor Randall says in his annual message in 1860 that the State was free from debt.

<sup>&</sup>lt;sup>18</sup> Annual Report of the Milwaukee and Prairie du Chien Railroad. Company for 1860.

The popular feeling came to a head in 1862. Petitions poured into the Legislature; Governor Harvey in his Annual Message said:

"It is plainly apparent, moreover, that the provision which exempts railroads and their property from taxation by the payment of one per centum of their gross earnings is grossly unequal. There are in operation in this state eight hundred and sixty-three and one-fourth miles of railroad, worth certainly an average of \$15,000 per mile. As before stated in amount of receipts of General Fund, this property paid into the state treasury the past year \$25,056.29, in lieu of all taxation. The total earnings returned were \$2,991.558.86 showing \$4,859.28 of license or tax moneys remaining unpaid. The title of these roads has passed or is rapidly passing into the hands of the first creditors at a cost which leaves them among the most productive property in the State. There is no longer justice or good policy in favoring this property in taxation, at the charge of the other property of the At the same time the theory of the law seems to me correct. It would not be good policy to expose the roads to taxation by piecemeal in every town or school district through which the track happens to pass. the unequal productiveness of the different lines indicates a percentage upon the earnings to be the most equitable basis." 18

The Legislature during the extra session in 1862 made appropriations that increased the tax rate on assessed property fifty per cent. The regular session responded to the popular demand and increased the railway rate from 1 to 3% on gross earnings.

In 1870, railway construction reviving, the companies again sought and received aid from towns, villages, cities, and counties. Many localities were already keenly suffering from the burdens of a heavy bonded debt, the result of giving such aid. In the light of this experience

<sup>&</sup>lt;sup>13</sup> Governor's Annual Message, 1862.

many persons proposed schemes to ameliorate the condition of any municipality giving aid in the future.

The result was an act which, while authorizing a municipality, on vote of electors, to issue bonds for railway stock, not to exceed \$5,000 per mile, provided that the holder of the bonds, in order to secure the benefits of the act must register them in the office of the Secretary of State; and that the railway companies accepting the bonds under provisions of the act must pay six per cent. of their gross earnings into the State Treasury, to be placed to the credit of the towns issuing bonds. If this sum were not sufficient to pay the interest on the bonds, a special tax, added to the state tax, was to make up the deficiency. The peculiar feature of the law was the attempt to tax the "unearned increment" of land. The act provided that each town, incorporated village or city, issuing bonds under the act was to make a return to the Secretary of State of the annual assessed valuation of real property for 1869. The amount yielded each year by the state, county and city or town on the increase of assessed valuation over the assessed valuation of 1869 was to be placed to the credit of the said municipalities to form a sinking fund for payment of interest and principal of bonded The state was not a party to the transaction but merely the custodian of the funds.<sup>14</sup> The rate in 1875 was reduced from six per cent. to five per cent. of gross earnings, and the clause authorizing the special tax being a complete failure, was struck out. The law, though remaining on the statute books, did not bring about the desired results; for special legislation continued, and in 1872 another general law 15 was enacted authorizing localities to give aid without complying with the involved scheme of the previous law. The law of 1870 remained

<sup>&</sup>lt;sup>14</sup> Chapter Laws of Wisconsin in 1870.

<sup>15</sup> Chapter 182, 1872.

in force until it was repealed by omission from the revised statutes in 1878. Only two railway companies, the Green Bay and Minnesota, and the Northern Wisconsin, and four towns, accepted its provisions. The law was poorly administered. Through the carelessness of executive officers, the railways paid three instead of five per cent. on gross earnings, 16 and the Northern Wisconsin paid nothing in 1876, 1877, and 1878. The transfer of moneys from the general fund to the credit of the towns was often neglected.

The exemption of the lands of railway companies from taxation should be mentioned. Neither the charters nor the early laws exempted lands, other than those necessary for the operation of the railway, from taxation; but, in 1864, the lands of the West Wisconsin Railway were made exempt for a period of ten years,17 and in 1870 the time was further extended ten years. 18 A new policy being started, other railways receiving government lands sought exemption. An alternative was sometimes offered, and those whose lands received from government were not exempt from tax, were exempt from payment of fees for a period of five years.<sup>19</sup> To equalize the burden, where railway lands were exempt, it was provided that the company should pay a license fee of five per cent. on gross earnings and that this tax should be divided among the counties, according to the number of acres exempt.20 The Northern Wisconsin Railway Company. for exemption from taxation, was obliged to sell its lands to actual settlers, for not more than \$2.50 per acre; and to carry free of charge, for a period of thirty years, all troops and property of the state.21

<sup>&</sup>lt;sup>14</sup> Report of Green Bay and Minn. Ry. Co., 1874, p. 76.

<sup>17</sup> Chapter 324, General Laws, 1864.

<sup>&</sup>lt;sup>26</sup> Ibid, Chapter 104, 1870.

<sup>&</sup>lt;sup>19</sup> Chapter 113, General Laws, 1875.

<sup>&</sup>lt;sup>30</sup> Ibid, Chapter 22, 1879.

<sup>\*\*</sup> Chapter 22, General Laws, 1879.

Various other measures were passed to encourage rail-way construction. In 1875 the Wisconsin Valley Company was exempted from payment of license fee for a period of three years.<sup>22</sup> In the same year an act, passed to encourage the building of narrow guage railroads, authorized towns to issue bonds; and to secure for a period of ten years the license tax paid by the railway company in whose aid bonds were issued.<sup>28</sup>

The railways, heavily in debt, depended upon the crops for their revenues. Prices having been high during the war, the farmer could pay a high price for transportation; but with the extended production, due in part to the railways, the price of grain fell, and the farmers could no longer afford to pay the transportation charges at the same figure. The railways, on the other hand, could not pay their debts if rates were lowered. As the farmer, having his capital fixed in land, was at the mercy of the railway, exorbitant rates were charged, which naturally resulted in hostility between farmer and railway.

Bankruptcy and ruin from injudicious investments in railway stock added hundreds of farmers to the disaffected classes; municipalities, having loaned their credit, expecting to pay their debts from the railway dividends, and to reap great wealth and advantage, found instead that they were buried beneath a hopeless debt, and promptly arrayed themselves against the railways. In addition to all these grievances, discrimination in rates worked an injustice to the people at large. Discrimination vitally affected values in farms. It was fatal to the merchant in the non-competitive place. It blasted the hopes of the village, and built up cities at competitive points. It made or unmade a business by offering favorable or unfavorable rates. Thus it was that the farmer,

<sup>&</sup>lt;sup>20</sup> Ibid, Chapter 278, 1875.

<sup>\*</sup> Ibid, Chapter 117, 1875.

the villager, the merchant, and the manufacturer were up in arms against the railway corporation.

In the Grange, a farmers' society, the movement found an organ for expression, though it by no means included all the active forces. The movement for railway regulation had early beginnings, but it was fanned into flame about 1872. Governor Washburn, in his annual message for that year, calls attention to the discrimination in rates and to the power assumed by the railway officials, who thought their will supreme law, an error which, he says, should be corrected. In 1873, he says that the vast corporations are becoming a source for alarm; that there is no branch of industry within the state that is not dependent on the railway companies. The financial disturbance of 1873 added fuel to the fire. The popular movement took several directions, advocating abolition of discrimination; regulation of rates; changes in the patent laws; banking laws; a currency law; alien laws; internal improvements and taxation. The financial distress touched the pocket of the people and there came a "demand for a purer public morality, a more equitable apportionment of the burdens and blessings of government and a more rigid economy in the administration of public affairs." 24

The Secretary of State, in 1874, discussing the question of taxation of railways, accepts as the theory of taxation that all property should be taxed on selling value and declares that there are three methods of determining the value of railways for the purpose of taxation;—I. Actual cost of roads and equipments; II. Total indebtedness and market value of the stocks; III. Capitalization of net earnings. I. By the first method, he levied on the cost of the roads and equipment as returned by roads at

Message, 1874.

\$61,459,371.81, a rate of 2.23 %, the same as the rate on other property, which yielded \$1,370,544.06, or over five times \$35,566.36, the amount actually received. II. By the second method, the indebtedness being \$36,610,352.80 and forty per cent. of the face value of stocks being \$14,229,916.83, the amount due at 2.23% was \$1,113,738 or thirteen per cent. of gross earnings. III. Capitalizing at seven per cent. the total net earnings in Wisconsin, he reached a result of \$3,830,128.47, and again, applying the prevailing rate, he found the amount yielded to be \$1,220,169.50, or 14.20 % of gross earnings. An average of the three methods, says the Secretary, gives 11.79 % of gross earnings. While the Secretary's assumption that other property was assessed on its selling value, and his use of unreliable statistics and questionable methodsof determining value may be criticized, nevertheless, his figures, showing that railways did not bear their full share of burdens, had an immense influence, and made some change in the rate imperative.

During the session of 1874, while the question was before the Legislature, a committee was appointed to consider the advisability of a change. The majority of the committee found that the burdens of other tax payers were relatively heavier than those paid by the railway companies; and advised that the rate be raised from three per cent. to five per cent. of gross earnings. They, as well as the railway companies, favored the retention of the license fee system. The minority report of the committee desired the abolition of the tax on earnings and advocated that they be taxed the same as other property. They urged the unconstitutionality of the law; the lack of interest by railways in expenditure; the inequality of the method as objections to the tax on gross earnings.<sup>25</sup>

<sup>\*</sup> Comm. Tariff and Taxation of Railways, 1874.

The Grange had called for an increase and change in the method of railway taxation. It was the equality of burdens, not of form, that they demanded. The railways opposed any change of form, claiming that the true measure of value was the gross earnings. They argued that it was unwise to tax them at the same rate as other property, for they were a quasi-public corporation, and the rate assessed would merely be added to the charges for service; that other property paid only one per cent., not two per cent., on actual value and that three per cent. on earnings was equal to one per cent. on actual value of railway property; also that the rate in Wisconsin was higher than in any State.<sup>26</sup> The result of the Grange movement in regard to taxation was a law raising the rate from three to four per cent. on gross earnings.27 Another act (the Potter law) classified the railway companies according to earnings per mile and fixed the maximum traffic charges for each class. As a result, the low rates established, being based on charges from competitive points, which paid only operating expenses and left nothing with which to pay fixed charges, forced many roads into the hands of receivers; only four paid interest on their bonds; construction came to a standstill; development of the state stopped.<sup>28</sup> The reaction which was sure to follow such an extreme measure as the Potter law, brought with it a reduction in the rate, through the classification of railways, for purposes of taxation, on the same basis as the classification for tariff charges.<sup>29</sup> This

Mr. Corey, of Milwaukee, before Legislature, March 29th, 1874.

<sup>&</sup>quot;Chapter 315, Laws of Wisconsin, 1874.

Governor's Message, 1876.

<sup>&</sup>lt;sup>20</sup> Chapter 97, Laws of Wisconsin, 1876. "1st. Four per cent. per annum of their gross earnings of all companies whose gross earnings equal or exceed three thousand dollars (\$3,000) per mile per annum of operated railways.

<sup>&</sup>quot;2nd. Five dollars per mile per annum of operated railways by all companies whose gross earnings exceed \$1500 per mile per annum,

law remained in force until 1897 when a new classification was made. The details and workings of this classification will be discussed in a later chapter.<sup>80</sup> The laws providing for the exemption of the railways from all taxes except special assessments and for the payment of a license fee continued in force until 1903 when as a result of a movement for an increase in the amount of taxes paid by the railways the license fee was abandoned for an ad valorem tax.<sup>81</sup>

and are less than \$3000 per mile per annum, and, in addition, two per cent. of their gross earnings in excess of \$1500 per mile per

<sup>&</sup>quot;3rd. Five dollars per mile of operated railway, by all companies whose gross earnings do not exceed \$1500 per mile per annum."

Section 3. All licenses issueable in and for the year 1876 shall be granted upon reports made for the business of the preceding year and at the rates prescribed in this act.

See infra, Chapter IV.

E For a discussion of this movement, see infra, Chapter VII.

## CHAPTER III.

## THE ADMINISTRATION OF THE LAW.

## INTRODUCTION.

A revenue law, to produce the best results, must be not only sound in principle, but it must provide for an effective administration. For while the law may be perfect if it could be perfectly administered, lax execution may render it worse than useless. Its partial enforcement may work greater injustice than the rigid enforcement of a law which is defective, from an economic point of view. Thus the provisions for the administration of a revenue law are as important as is the construction of the law on sound economic principles, since the effectiveness of the latter depends upon the efficiency of the former. execution of the law depends upon two factors, the machinery of operation and the men who operate the machinery. The machinery for the operation of the tax on gross earnings is simple and is said to be inexpensive. With few exceptions the men who have operated the machinery can be likewise described.

#### I. THE ADMINISTRATIVE MACHINERY AND PROCESS.

The Wisconsin system of taxing railway companies had no elaborate administrative organization for its operation. The machinery for the assessment and collection of the license fee was simple and inexpensive. Every company or person owning or controlling a railway, in the state, was obliged to apply to the State Treasurer, for

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a license to operate such railway. The application had to be accompanied by a sworn statement, showing the amount of gross earnings for the preceding calendar year, the number of miles of railway operated, and the gross earnings per mile.<sup>1</sup> A similar report was made to the Railway Commissioner. The only tax was the so-called "fee" charged for the license, railways being exempt from all other taxes. The "fee" was a certain percentage of the gross earnings of the railway, the rate varying according to the class under which the railway fell; the classification being determined by the amount of gross receipts per mile.<sup>2</sup>

Before 1889, the State Treasurer was the sole executor of the "license fee" law. With little or no knowledge of railway accounts and accounting, he was an incompetent administrator. Not only was he incompetent, but he had inadequate facilities at his command. Not the least of these was the insufficient detail in reports made to him. Attention was repeatedly called to these conditions 3 until in 1889 the authority to compute the fee was taken out of his hands, 4 and his function limited to issuing the license to the railway company on the payment of one-half the license fee, the amount of the fee having been determined by the proper official.

On the railway commissioner, who was familiar with railway accounts and accounting, naturally fell then the duty of computing the tax. He examined and approved the detailed reports showing receipts from all the various sources, which the railways were required to make to

<sup>&</sup>lt;sup>1</sup> Revised Statutes, 1898, Sec. 1211.

<sup>&</sup>lt;sup>a</sup> For the classification, see infra, Chapter IV.

In case of roads of the fifth class, the fee is a specific tax per mile, and in the fourth the fee is a specific tax plus a percentage tax.

<sup>&</sup>lt;sup>8</sup> Report of Ry. Com., 1881, p. 39. Ibid, 1886, p. 14. Ibid, 1888, p. 14.

<sup>&</sup>lt;sup>4</sup>Laws of Wisconsin, 1899, Chapter 308.

him. These reports were much fuller than those made to the Treasurer, and might be made to include whatever the commissioner desired. As a rule, they included gross receipts from freight, passenger, mails, express, baggage and storage, stock yards, elevators, store-houses, switching, car-mileage, rentals, dividends, interest from bonds, stocks or deposits; net receipts from the land department, miscellaneous income and "other items." The railroad commissioner computed the "license fee" from the reports of the amounts of gross earnings, and certified to the State Treasurer the amount of tax due from each company. The efficiency of the law, then, depended upon the correct estimation of gross receipts and the proper classification of the railways.

The Commissioner was supposed to verify the amount of gross receipts as reported to him by the railways, and also to determine the class into which a given railway fell.6 Previous to his participation in the administration of the "license fee" law the Railroad Commissioner had authority to administer oaths, summon witnesses and to investigate the books and papers of any person or company operating a railway in the state.7 He still retains these powers and would in any given case be able to fully investigate the reports. It is, however, practically impossible for him to make any extended investigations owing to the amount of work involved, and the lack of money available for such a purpose. "license fee" law was supplanted by the ad valorem system, the Commissioner had never gone back of the certified reports of the railway companies.8 He had, however,

Laws of Wisconsin, 1899, Chapter 308.

See infra, p. 52.

Laws of Wisconsin, 1876, Chapter 57.

<sup>&</sup>lt;sup>6</sup> Extract from letter of Railroad Commissioner G. L. Rice, dated February 5th, 1902: "The approval of the figures or statements of railway companies does not prevent the commissioner from going

exercised his authority by deciding what items should be included in gross receipts, and had thus indirectly raised the amount of the license fee. As the Railroad Commissioner's approval of the returns was necessary before a license could be issued, he could, if he so desired, withhold his approval until the returns were satisfactory.

That the law gives the Commissioner extensive powers he seldom exercises, is an example of the fact that a law may be apparently faultless, but when placed in the hands of men for execution, it may prove deficient. Under existing circumstances it is practically impossible for the railway commissioner to ascertain whether the reports of earnings are correct, especially in the case of earnings from inter-state traffic. In the case of a single railway, it might be possible to corroborate by investigation the returns of the railway company, but with forty companies making reports, it is virtually impossible to accomplish this, even with a large increase in the clerical force and appropriations for the office of the railway commissioner. It should be borne in mind that, although the commissioner possesses powers amply sufficient to enable him to verify the reports of the railway companies, investigation is the only means at his command. The reports of the railway companies, made to the railway commissioner of Wisconsin, and, to the commissioners of most of the other states, as well as those made to the Inter-State Commerce Commission, are for the fiscal year ending June 30th; while the reports made for the purpose of taxation in Wisconsin are for the calendar year. Moreover, the division of earnings among the states in their



further into the amounts, and if amounts are found incorrect he may change the license according to facts. We have never raised or lowered the returns after such returns have been verified by the officers of the railroad company." As to the extent of the commissioner's power, Governor La Follette seems to differ from the commissioner. See infra, p. 30.

reports for the fiscal year is made on a different basis from that used in determining gross receipts for the purpose of taxation. Thus in reports to the Railroad Commissioner total gross receipts are divided by the railway companies among the states according to revenue train mileage; while for the purpose of taxation in Wisconsin the local earnings were determined and to these was added the proportion of inter-state receipts accruing to Wisconsin.<sup>9</sup>

The fact that the commissioner exercised no large powers in computing this tax, owing to the lack of funds, time, office force and desire, made the state dependent upon the correctness of the railway companies' reports. Governor La Follette in regard to this point said:

"The strong objection to a license fee is that it allows the corporation to make its own report of its gross earnings, or in other words to assess itself. It is just to note in this connection that . . . the railway companies have been fairer than the average individuals, who, as to the great mass of personal property, assess themselves; . . . In no case, however, should the assessment be left to the tax payer, whether corporation or individual, without some check or safeguard for the state. 10

Furthermore the Governor recommended that, if the system be retained, the legislature should vest in the tax commission, or some representative of the state, the authority to increase the amount of gross earnings reported by any railway company to such a sum as would in the judgment of the authority in whom the power is vested, render the amount just and equitable.<sup>11</sup> He ad-

<sup>•</sup> For the way in which the earnings from interstate traffic are divided, see infra, p. 41, et seq.

<sup>&</sup>lt;sup>10</sup> Inaugural Message of Governor Robert La Follette, 1901, p. 14.

<sup>11</sup> The Governor, it would seem, does not understand the present power of the Commissioner or the Railroad Commissioner is mistaken as to the extent of his power. There has been no court decision on this point.

vised that any railway company feeling aggrieved by the sum so fixed be permitted to produce witnesses and evidence in its behalf, and that "the final determination of the Commission or Board should in some form be subject to the supervision of the courts." <sup>12</sup>

The correctness of the reports of the railway companies has in the past been questioned. Committees have, at various times, been appointed by the Legislature to investigate these reports.<sup>18</sup> In 1893, a committee reported that the returns to Wisconsin of the Chicago, Milwaukee. and St. Paul Railroad for the years 1883-1892 showed gross earnings to be \$240,054,440.74; to other states the same item was reported as \$262,471,859.90, a difference of \$22,363,411.16; the reports of the Chicago and Northwestern Company showed a similar difference of \$51,-463,326.11. The majority of the Committee said that the railway companies satisfactorily explained the difference. The railways claimed that the difference was due to the fact that in some states the reports of earnings were in proportion to mileage, but in Wisconsin the actual earnings were reported. "The Committee took shipments between Wisconsin and other states and ascertained that this was true. The minority reported that certain railway companies were, to a greater or less extent, trying to evade taxation; that the Wisconsin Central Railway had escaped its just share of taxes by building, in 1881, spurs and side tracks in order to increase the mileage to such an amount that the earnings per mile would fall below \$3,000, and thus had paid as a "license fee" only \$17,681.63, whereas \$62,444,23 should have been

<sup>&</sup>lt;sup>12</sup> Governor La Follette's Inaugural Message, 1901, p. 14.

<sup>&</sup>lt;sup>18</sup> Report of committee on tariff and taxation of railroads, 1874. Append. Ass. Jour., 1874.

paid.<sup>14</sup> In 1880 a committee of the legislature appointed to investigate the returns of the railways found them to be correct. In 1903, the legislature authorized another Several expert accountants were eminvestigation. ployed for about two years in examining the books of the railway companies, and found that the receipts from 1807 to 1903 not reported for taxation amounted to \$10,500,-000. The collection of the fee in Wisconsin is simple and inexpensive. One-half of the fee must be paid to the State Treasurer before he can issue a license, and the remaining half on or before the tenth day of August. A license for each year is required and neglect to obtain it or failure to pay the fee or any part of it invokes a penalty of \$10,000 and forfeiture of all rights, privileges and franchises. The collection of the "fee" has never been contested on the grounds of its being a regulation of interstate commerce. The railway companies have in the past been contented with the existing system of taxation. The tax commissioners express themselves as believing the law valid, but do not discuss the question in detail.<sup>16</sup>

The various decisions of the United States Supreme Court bearing upon the validity of the railway gross receipts tax have been analyzed by Professor Frank J. Goodnow.<sup>17</sup> Among other principles which he points out, two are applicable to the Wisconsin law. From the decisions it would seem that a state may impose a tax upon the franchise of a domestic corporation, measuring the tax by the gross receipts, whether such receipts are derived from interstate commerce or not.<sup>18</sup> But a state

<sup>&</sup>lt;sup>14</sup> Report of special committee. Assembly Journal, Wisconsin, 1893.

<sup>&</sup>lt;sup>10</sup> Report 1901, p. 90.

<sup>&</sup>lt;sup>17</sup> Prof. Frank J. Goodnow, "Taxation of Railway Gross Receipts," Political Science Quarterly, IX, p. 233.

<sup>&</sup>lt;sup>16</sup> Ibid, p. 240.

can tax a foreign corporation only on its property in the state and on business done in the state, and a tax on that part of the gross receipts derived from interstate commerce would be regulation of interstate commerce and therefore invalid.<sup>19</sup>

#### II. ADMINISTRATIVE PROBLEMS.

The consequence of the simple and inexpensive machinery outlined above is to be seen in the varied interpretations of the law in Wisconsin and Michigan. As the tax was levied on gross receipts in Wisconsin, and gross income in Michigan, and the class and rate depended upon the "earnings" per mile of road, particular importance attached to the definition and interpretation of the term road or mileage, and the definition and methods used for the determination of gross income or receipts. The terms of the laws were general. The interpretation of them rested upon the official who computed the tax, but it was for the most part left to the railway officials to interpret as they thought best. There have been but few vigorous state officials who have acted independently.

# 1. The Determination of Mileage.

The definition of what constitutes road or mileage is of considerable importance and the law is indefinite <sup>20</sup> in its statements, and leaves many points undetermined. The mileage reported and used in computing the tax affects the revenue of the state in two ways. First, it is used in some instances in estimating the proportion of gross earnings from interstate commerce to be credited

<sup>&</sup>lt;sup>19</sup> For further discussion of validity of railway gross receipts tax, see publications of American Economic Association, III Series, No. 1. p. 245.

<sup>&</sup>lt;sup>30</sup> This is also true where the *ad valorem* system is in force, in. which case mileage is used to localize values.

to the state. Second, in both Wisconsin and Michigan, the tax is progressive, the railways being divided into classes according to the amount of gross income per mile, the rate depending upon the class. Hence, the mileage is one factor in determining into which class a given railway falls, the gross earnings being divided by the length of road "actually operated."

The use of mileage in connection with the localization of earnings from interstate commerce is best considered in connection with the determination of gross receipts, as the mileage used may be in different cases track, traffic, or train revenue mileage.

The mileage questions for present considerations are first, what constitutes "road actually operated"; that is, the standard prescribed by law in both Wisconsin and Michigan for determining classification; and second, to whom shall mileage be credited.

The question as to what constitutes mileage first came up in Wisconsin when the minority report in 1881 of a committee of the legislature appointed to investigate railway conditions, stated that spurs and side tracks were built to reduce earnings per mile. No action was taken at that time to decide what constitutes road actually operated. According to the railway commissioner, as a consequence of the indefiniteness with which the term "road" is used in the law, a means of evading a part of the tax has certainly been open. He says:—"The legislature ought without delay to distinctly specify what shall constitute road, which may be counted in working up its mileage. It is unreasonable to allow a railroad company to count, as so much road, short spurs and sidings, built to mills, manufacturing establishments, mines and quarries, and which are only operated as sidings for gathering up freight,-have no schedule time for their operation, and which are built in the most flimsy and



temporary manner. That such tracks should be counted as mileage, and a sufficient amount of it be grouped together to change the class, and thus defraud the state treasury is clearly unreasonable, and manifestly unjust. It would seem impossible that such would be the intention of the legislature. But whatever the intention may be, the law should be so clearly defined that neither the commissioner nor the treasurer need to invoke the decisions of the court in determining the fact." <sup>21</sup>

In Michigan the problem of spurs and side-tracks provoked no discussion until very recent years, the railways having reported whatever they desired. However, in 1808, the Railroad Commissioner becoming interested in his duties decided that road actually operated consisted of "main track mileage upon which there is a service to the public generally at regular and stated periods, or a continuous service for a specific purpose." The Commissioner says:--"Taking up each spur or branch by itself the department has undertaken to decide whether the same constituted a portion of the railroad actually operated, and if it did not, the mileage of the company has been lessened to the extent of the mileage of the spur or branch. The general rule has been applied, but each case has been decided by itself, and upon the facts surrounding it." 22 As a consequence of this activity there was a reduction of 367.58 miles in Michigan railway mileage, so far as mileage reported "actually operated" was concerned. Additional revenue secured by the State by reason of this reduction by the department was \$14,351.50.

In 1889 the commissioner seems to have changed his standard for computing mileage actually operated, as he

\*\* Report Railroad Commissioner, 1898, p. VII.

<sup>&</sup>lt;sup>21</sup> Report of Railroad Commissioner, Wisconsin, 1888, p. 15.

says that "credit in mileage is given for all lines and parts of lines whose operation results in independent earnings and contributes to the sum of earnings upon which the taxes are computed." <sup>28</sup>

On account of the complications due to consolidations, trackage rights, terminal agreements, etc., the problem of the source to which mileage shall be credited has presented several phases. One phase of the question has been decided in Wisconsin by the courts.

In 1880 the Chicago, Milwaukee, and St. Paul Railway Company, having gained control of four hitherto independent railways, one under a lease and the other three by deed of conveyance, reported the same separately and independent of the main system. Included as part of the system their gross earnings per mile placed them in a higher class than they occupied as independent roads. The state treasurer refused to issue a license, and in a mandamus proceeding, the court held that the license is a license to operate, the amount of fee being determined by the gross earnigs within the state accruing to the corporation, and is not fixed by the gross earnings of the separate roads which that corporation may operate. determining the class into which the roads operated by one corporation fall, the mileage of all the roads is also taken in the aggregate.24

In Michigan the same question took a little different form. The Detroit, Grand Rapids, and Western Railway Company, and the Chicago and Western Michigan Railway Company, both ran trains over and reported in their mileage the same twenty miles of road. The commissioner objected to the use of these twenty miles by both railways to reduce gross earnings per mile. He

<sup>\*\*</sup> Ibid, 1800, p. X.

<sup>\*</sup>State ex rel C., M. & St. P. Ry. vs. McFetridge. State Treasurer, 56 Wisconsin 256.

held that only the company having the actual management of operation, despatching trains, maintaining road, etc., could report mileage used as "road actually operated."<sup>25</sup> The courts sustained the commissioner on the ground that "mileage which is not owned by a railroad company must be exclusively operated by it in order to be used in fixing rates." <sup>26</sup>

# 2. The Determination of Gross Earnings.

Of all the administrative problems connected with the taxation of gross earnings, the most important is the determination of the amount of gross earnings for a given corporation. This has involved the questions of what constitutes gross earnings, and what method shall be used to distribute to a state the gross earnings of inter-state roads.

The assumption has been that gross receipts was an item in railway accounts which could not be misunder-stood or manipulated. The indefiniteness of the law has been the consequence of this. In one state we find the legal term used, gross receipts, in another, gross income.

When the tax on gross earnings was adopted, the income from sources other than operation was of little importance, and the complications of inter-state commerce of small consequence. As the industry developed and consolidations followed, railway systems operating through several states grew up and the necessity of localizing earnings became evident. With the development of the industry, income became more heterogenious. Financial policy led to surplus or large profit and loss accounts; contingencies of traffic led to ownership of stocks and bonds in other companies; and other influences gave a wide scope to the investments of the railway's surplus,

<sup>&</sup>lt;sup>25</sup> Mich. R. R. Com., 1898, p. VII.

<sup>&</sup>lt;sup>26</sup> Quoted by R. R. Com., 1899, p. XIII.

until at present the income from other sources than operation forms an important item in railway finance.

During the constructive period railway accounting was in a chaotic state, but through the efforts of Prof. Henry C. Adams, Statistician of the Interstate Commission, assisted by the "Association of American Railway Accounting Officers," and the "National Association of Railway Commissioners," the official reports now begin to approach uniformity in form, if not in fact. The form followed is that found in the official classification issued by the Interstate Commerce Commission.

These growing complications of the industry and the customs followed in accounting have led to complication in determining and localizing gross earnings. In fact, the practice of making up state reports in accordance with the official classification has been quite unsatisfactory where such returns have been used for determining the amount of taxable gross earnings. For example, the official classification calls, not for total gross receipts, but for net receipts or the balance from "switching charges," "car per diem and mileage," and "price of equipment." After discovering that the railways were reporting net and not gross earnings the Michigan Railway Commissioner insisted that switching and similar receipts appear in the reports as gross receipts without reductions. The railways did not yield to this ruling without protest, claiming that they paid out as much for switching as they The court held that "income from all sources. whether in the nature of earnings or not constitutes a part of gross taxable earnings of a railway under the provisions of the present tax law."27

The investigation made by the Michigan Commission in 1898 showed that in computing the taxes against the

<sup>&</sup>quot;Quoted in Mich. R. R. Com. Report, 1898, p. XXXIV.

railway companies "the former commissioners of railways have excluded from the gross taxable income of the companies amounts received from interest on bonds, stock in other companies, and from all other sources." <sup>28</sup> This commissioner demanded that these be included in reports as part of gross income, in which contention he was again sustained by the courts.

In 1899 the commissioner included income from car ferries, from rentals of buildings, from warehouses, elevators, stone quarries, mines and all other sources. Gross earnings were defined as total receipts, with no deductions, except perhaps receipts from the sale of bonds and new capital. The commissioner carried this so far as to think seriously of taxing the sums received from the Grand Trunk by its leased lines, to make up deficits in operation. These, however, were omitted, on the advice of the Attorney General to the effect that "these sums were considered as loans made to the Michigan lines and could be in no sense considered as taxable income." <sup>29</sup>

This commissioner was the most energetic and efficient in Michigan's history. His zeal extended too far again, however, when he wished to assess the undivided profits of a subsidiary line as income of the proprietary line, on the ground that they could have the income at any time they desired. The Attorney General advised against this action, as the income had already been taxed. The Commissioner, in the light of his experience, decided that "it would be wise on the part of the Legislature to further particularize and declare just what is defined and incorporated by the term gross earnings." <sup>80</sup>

In Wisconsin, also, the Commissioner and the railways disagreed on what constitutes gross receipts. The Com-

<sup>&</sup>quot;Michigan R. R. Com. Report, 1898, p. XXXIV.

<sup>20</sup> Mich, R. R. Com, Report, 1899, p. X.

<sup>&</sup>lt;sup>20</sup> Mich. R. R. Com., 1899, p. X.

missioner says:—"The railroad companies generally insist that they pay out more than they receive for car mileage and switching. Hence, there are no receipts from these sources. They claim that rentals received from tracks, yards and terminals is double taxation, as the companies renting pay on the gross earnings; that the earnings of the money in other items is not derived from the operation of the railway," <sup>81</sup> and should not be included in gross receipts.

There is some truth in the claim that double taxation may arise from the taxation of rentals received from tracks, yards and terminals; and the contention that receipts from investments are not property subject to taxation, as a part of gross earnings, is sanctioned by eminent authority.82 Yet the Railroad Commissioner acted wisely when he "insisted that these items of gross receipts be reported as taxable property," 88 and though the revenues from these sources may be of comparatively little importance, under existing conditions in railway accounting, it is of the greatest importance that there be no loop hole which would permit any looseness in the interpretation of gross receipts.84 The efficacy of the system of taxation which uses gross receipts as the basis for the tax depends, under existing conditions, upon the defining gross receipts as meaning total gross receipts. Otherwise the system would be open to one of the objections to the tax on net receipts, viz.: that it affords and offers opportunity for manipulating the accounts. It is thought that the gross receipts cannot be juggled, or at least so easily manipulated as can net receipts.

\* See Adams, Finance, p. 461.

\*\* Report of Railroad Commissioner, Wisconsin, 1900, p. 33.

<sup>\*\*</sup> Report of State Railroad Commissioner, Wisconsin, 1900, p. 33.

For discussion of meaning of gross earnings, see Seligman's Essays on Taxation, pp. 200, 201. Adams' Finance, p. 358, et seq.

Commissioner in his interpretation follows the economic definition, "Gross receipts consist of all earnings from transportation of freight and passengers, receipts from bonds and stocks owned, rents of property, and all miscellaneous receipts from auxiliary business enterprises or otherwise." 85

# 3. Localization of Earnings.

The localization of earnings, that is, the determination of the proportion of the gross income of an interstate railway to be credited to a given state has been a difficult problem wherever the gross receipts system has been in operation. In Michigan the methods used to bring about this distribution during the thirty years in which the system has been in force, have varied widely. During the first decade the interpretation of the law seems to have been left entirely in the hands of the railway officials. In Wisconsin similar conditions prevailed.

The Wisconsin laws of 1854 contained a rule for the localization of gross earnings, providing that interstate railways should pay "such portion of one per centum upon gross earnings of the whole road so returned as the length of that portion of the whole road bears to the whole length of said road." Thus road mileage became the standard to be used in localizing the earnings. The law of 1860 was largely copied from the law of 1854, but this section was omitted, and the law explicitly stated in regard to their right to operate in Wisconsin that the railroads pay "as a fee or charge therefor a sum equal to one per centum of the gross earnings of their respective roads." A consistent construction would result in the payment of one per centum on the gross earnings, not only of that portion lying within the state,

<sup>\*\*</sup> Seligman, "Essays on Taxation," p. 201.

<sup>\*</sup> See Laws of Wisconsin, 1854, Chapter 74, Section 2.

<sup>&</sup>lt;sup>87</sup> Laws of Wisconsin, 1860, Chapter 174.

but of the whole road. That is evidently the letter of the law. The courts have held that the interpretation would be valid when applied to domestic corporations.<sup>38</sup> The practice, however, was not in accordance with the law.

Mr. Samuel D. Hastings, who was State Treasurer from January 4, 1854, to January 1, 1866, accepted the methods in force when he came into office. When the law was changed from a tax to a license fee, and as we have seen, omitted the distinction between earnings in the state and gross earnings, he evidently did not take the trouble to change the methods used in determining the railway tax, but continued the old practice of letting the railways assess themselves. The question of a change did not even occur to him, if we may judge from the official correspondence.89 The railways of course, gave that interpretation to the law which best served their interests, but there was no unity of action, each road adopting its own method. The Racine and Mississippi (Western Union), in 1860 operated from Racine, Wisconsin, to Rockford, Illinois, a distance of one hundred and four miles. The officials write that for the year ending December 31, 1860, "The Trustees have prepared the following report embracing the particulars designated in the forms provided in the terms of the Statute as far as they are applicable to the property." 40 They reported the number of miles in Wisconsin, the gross receipts of the whole line in Wisconsin and Illinois and the proportion of gross receipts according to per cent. of whole mileage in Wisconsin. They paid taxes on the amount of re-

<sup>\*</sup>State of Maine vs. Grand Trunk R. R. Co., 142 U. S. 217.

Waults of Treasurer. Copies are filed of all letters leaving the office. Those of 1860-62 show no question as to the earnings, etc., as reported, or per cent. paid by the railroads. Vol. 11, pp. 756, 903. Vol. 16, p. 73; p. 318.

Reports from vaults of Secretary of State in 1862.

ceipts thus found in Wisconsin.<sup>41</sup> The difference in amount of taxes paid and taxes due under the law amounts to several million dollars.

In Michigan, soon after the Railroad Commissioner was given the duty of computing the tax, he was instructed by the legislature to investigate the reports from interstate roads, and he found that in the past the railways had reported "earnings for Michigan, but not the gross earnings on the whole road." He contended that the tax should be based upon the average gross earnings per mile of the whole road, the Michigan proportion to be determined by road mileage. The railways claimed that if they were to be assessed for the average gross earnings, they should be permitted to report on leased lines and lines in which they had a controlling interest, and that the average earnings of all these should be the basis of computation in Michigan. 42

Owing to a technicality the court decided in a test case against the state, but the legislature, by the law of 1883, corrected the difficulty. The railway company thus involved then consolidated many of the proprietary and leased lines, "thus reducing the earnings per mile and its taxes in the state proportionately" according to the rail-road commissioner.<sup>48</sup>

"With a view of approximating as closely as possible the traffic of our own state, exclusive of that originating elsewhere, I prepared the blank sent to the companies, on which to make their report for 1883 with reference to information as to the freight forwarded and received at Michigan stations. I was aware that there would be obstacles in the way of a strictly accurate report of local traffic, some of the companies having so kept their statistics as to enable them to separate the business of ter-

<sup>41</sup> Reports for 1862 in vaults of Secretary of State.

<sup>48</sup> R. R. Comm., 1881, p. XXXI.

<sup>48</sup> Railroad Commissioner's Report, 1884, p. XXXIV.

minal stations, not destined to local points on their own lines from that of a strictly local character." 44

In 1891 the law was amended, giving the railways the option of reporting gross earnings on interstate commerce upon either road mileage or traffic mileage. in 1893 the legislature, in Act 129, made it imperative that they report according to traffic mileage for all interstate business,—"and when the railroad lies partly within and partly without the state, prima facie the gross income of said company from such road for the purpose of taxation shall be on the actual earnings of the road in Michigan, computed by adding to the income derived from the business transacted by said company entirely within this state, such proportion of the income of said company, arising from interstate business as the length of the road over which such interstate business is carried in this state bears to the entire length of the road over which said interstate business is carried."45 This method of localization is explained by Tax Commissioner Oakman, as follows:—"This provision may be construed literally as follows: a road having three-fourths of its line without the state, and one-fourth within the state, would have to give to Michigan one-fourth of its gross income from interstate business, only when such income was derived from a haul over the entire length of the road. the haul extended over the entire length of the road without the state, and over one-half of its road within the state the proportion of gross income for Michigan from such haul would be one-sixth of the total." 46

It is obvious that this method of localization can be applied only to earnings from operation; and as gross earnings have been defined as including income from other sources, such as interest on bonds, rentals, etc., it is



<sup>&</sup>quot; Ibid, for 1884, p. XI.

<sup>&</sup>lt;sup>46</sup> Railroad Comm. Report, 1893, II.

<sup>4</sup> Report Mich. Tax Comm., 1900, pp. 143, 144.

plain that the law provides no means for their distribution. As has been pointed out, the Railroad Commissioner insists upon including these sums in taxable gross earnings. As a result the reports of gross earnings are estimates. In regard to the working of the law he says: that "the statute leaves no room for an estimate of what the earnings may be. The total earnings must be determined by an exact calculation of the amount earned by each company in transporting either small articles or bulky freight. In the limited time given for investigating the matter, this department has discovered that railroad companies, in their reports, either estimate their Michigan earnings, or include only such as are easy of calculation, both methods being contrary to law." 47

The Railroad Commissioner in 1897 advocated a return to the apportionment of gross income according to track mileage, saying that the total tax for all roads, based on track mileage would have been \$876,705.53, while the actual taxes paid on reported earnings in Michigan were only \$584,269.45.<sup>48</sup>

There is a conflict of evidence as to the method of procedure used to localize Wisconsin's share of earnings from interstate traffic. On the one hand the Comptroller of one of the railway companies operating an interstate line says:—

"I think that it is the universal custom of railroads in arriving at earnings in any particular state, to first take the earnings on the purely local business, i. e., originating and terminating in the state without passing out of the state en route, to which is added a proportion of the interstate mileage business arrived at on the base of mileage. As an illustration: If a shipment on which the gross earnings were \$30, was carried a total distance of 150 miles, one hundred of which were in Illinois and fifty in Wis-

49 Ibid, 1897, p. XLII.

Railroad Comm. Report, Michigan, 1897, p. XL.

consin, the earnings would be divided one-third to Wisconsin and two-thirds to Illinois.<sup>49</sup> This computation is made by taking each separate way bill and assigning to each state the amount that it is ascertained belongs to it." <sup>50</sup>

There is an agreement among the statements made by the railway officials who were asked for the methods followed by their companies in determining the gross receipts for the purpose of the tax. Their replies corroborate the statement above quoted. On the other hand, according to the state railroad commissioner, the method now in vogue is for the railway companies to compute the state's share of earnings from interstate traffic on the train mileage basis. He says:—"The gross receipts of an interstate railroad in Wisconsin is ascertained by computing all the pan-state traffic, and adding the interstate traffic computed on the train mileage basis." Trainmileage . . . is the aggregate number of miles run by revenue trains."

The former method, if followed, is probably more equitable than the computation on a train mileage basis. Train mileage depends, very largely, on the physical characteristics of a railway and the physical characteristics vary in different states. In one state an engine may be able to haul forty cars, in another only twenty. Train mileage would also include the local traffic, and thus a great difference might appear. If earnings were divided according to train mileage, the result might be an undue proportion of earnings being made taxable in the state where earning power per train was least. Under either method, even if it be granted that the reports of the railways are made by honest officials and to the best of their

<sup>\*</sup>Letter from L. A. Robinson, Comptroller of C., St. P., Minn. & Omaha Ry., dated January 25th, 1902.

<sup>\*\*</sup> Letter of Frank P. Crandon, Tax Commissioner of the C. & N. W. Ry. Company.

knowledge, gross receipts for the railways engaged in interstate traffic can only be approximated. "The officials of the through or trunk lines declare, for the most part, their inability to divide their statistics upon state lines." <sup>51</sup>

This question of the division of earnings on state lines was the subject of investigation by a special committee of Railroad Commissioners and was discussed before the National Conference of Railroad Commissionsrs, for several years. Members of the Association of American Railway Accounting Officers were present and took part in these discussions. It was acknowledged by both Railroad Commissioners and Accounting Officers that unless operating divisions ended at state lines it was impossible to give anything better than an estimate of earnings within the state.<sup>52</sup> A committee of the convention reports in 1894 on the problem of dividing earnings and expenses on state lines, that "at present the number of miles within a state as compared with the total mileage of a reporting company, is accepted in many cases as the basis of estimating gross earnings within state lines." 58 This method the committee considered far from satisfactory, owing to the great variety in density of traffic. Difference in density of traffic would mean difference in earnings per mile, and thus the proportional division of earnings according to mileage of road would be inequitable. The committee recommended a method of apportioning earnings which utilizes the station accounts by making them the basis for

<sup>&</sup>lt;sup>51</sup> Report Railroad Commissioners, Iowa, 1899, p. 5.

<sup>&</sup>lt;sup>88</sup> See remarks by Mr. Sturgis, member Executive Committee of the Association and representative of the C., B. & Q. Proceedings of National Convention of Railroad Commissioners, Washington, 1895, p. 15.

<sup>&</sup>lt;sup>86</sup> Proceedings of National Convention of Railroad Commissioners, Washington, 1894, pp. 54 and 55. Prof. H. C. Adams was chairman of this committee.

the computation of gross earnings from operation. The receipts from interstate traffic were to be pro-rated on the basis of agreement between lines for the exchange of traffic.<sup>54</sup> It is doubtful, however, whether this method is strictly followed.<sup>55</sup>

The experience in Wisconsin and other states shows that the chief characteristic of the executive officials in our state and local governments is official inertia. Accepting a public trust implies the acceptance of official traditions, habits, and precedents. To violate this rule brings down upon the culprit the wrath of the unseen forces. Public opinion, when aroused, may be the impetus to renewed action, or an exceptional official may vigorously fulfill his duty, but the official life is short, and the public sleeps or forgets; the unseen forces never do either.

It is most important that the customs and habits of the people, the customs and habits of officialdom be considered when the law is framed. The movement of the machinery depends upon the officials; the officials on the other hand conform necessarily to a large degree to the machinery. The machinery may lack the motive power and can not operate of itself, but it is most important that

<sup>\*</sup> Ibid, p. 56. "Resolved . . . second, that each State shall be credited with all the earnings derived from business originating and terminating within each State; on business coming into, going out of, or through each State, the earnings shall be prorated in proportion to the average of local charges on such business in the respective State, and on the respective lines.

Third, that the earnings and income from other sources than transportation shall be credited to each State on a mileage basis.

Fourth, that the operating expenses shall be charged to each State on the basis of train mileage in such State." Similar resolutions were adopted by the convention the following year.

<sup>\*\*</sup> The various methods of distributing the value of railways among the States are discussed in "The Commercial Valuation of Railway Operating Property." 1904 U. S. Census. Bulletin No. 21.

it be constructed as nearly perfect as possible, so that it may run with the least friction. Since inertia is the rule of official life, the laws should be explicit in all its provisions; its terms should be defined and its machinery self-operative so far as is possible.

The peculiar fitness of the tax on gross earnings is to be found in the assessment feature. Under the law taxing gross receipts, the discretionary power of the state officials is not great, and the taxable value of the railways is determined in accordance with a definite rule.

The strength of this method of taxing railway property is best shown by comparison with those systems which give great discretionary power to the state officials. The abuses, injustice, and corruption engendered among our officials and in the body politic under the latter system are immeasurably greater than the possible loss of a few dollars through the perjury of the railway officials.

#### CHAPTER IV.

# THE CLASSIFICATION OF RAILWAYS AND THE DISTRIBU-TION OF BURDEN.

# INTRODUCTION.

In addition to the administrative problems connected with the enforcement of the tax on gross receipts, there is a group of economic problems resulting from its enforcement, perhaps the most important of which are the questions to what extent are gross earnings a reliable base for a tax and what is the relative effect of the tax upon the different railways.

This and the two succeeding chapters will include a study of gross earnings as a base for a tax:—first, the equitable distribution of burden among the railways as modified by this classification, and tested by net earnings; second, the reliability of gross earnings as an indicator of value as tested by the market price of the stocks and bonds; third, the effectiveness of a tax on gross earnings over a term of years as measured by net earnings. As the fairest test of a tax is that of its actual workings compared with those of other systems in operation, one chapter will be devoted to the study of the comparative effectiveness of a tax on gross earnings and a tax ad valorem as shown by the experience of several states.

An examination into the equity of the tax involves a comparison of the relative burden borne, which, in turn must be based upon some standard of comparison. If an accurate measure of the value of railways existed, the task would be comparatively simple. In the absence of

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such a guide, it is necessary to test the gross earnings method by such standards as are available.

The history of our railways is such that it has rarely been true that those in authority have taken an attitude towards the railways which would secure equality among During the early periods of construction, the state or the municipality extended its financial aid to individual railways; at other periods it has classified them for the purpose of regulating rates; and again, perhaps. it has in other ways favored some railways above others. The same tendency has been shown in regard to taxation in that light burden, exemption, even marked favoritism have often appeared. The aid and exemptions have been due to the important part which railways have played in developing the country. To what extent this policy should be followed will not be discussed, but that it still occupies a place in our tax systems must be recognized. is one of the factors which accounts for the classification of railways in those states where the tax on gross earnings has been the chief method of securing revenue from them. In Minnesota the railways pay a tax of 1 % on gross earnings during the first three years of operation. 2 % during the next seven years, and 3 % thereafter. In Maine, Michigan, and Wisconsin the law classifies railways according to gross earnings per mile, increasing the rate as gross earnings per mile increase.

<sup>&</sup>lt;sup>1</sup> In Michigan all railways paid:—

Two and one-fourth per cent. on gross income not exceeding \$2000 per mile.

Three and one-fourth per cent. on gross income in excess of \$2000, not exceeding \$4000 per mile.

Four per cent. on gross income in excess of \$4000, not exceeding \$6000 per mile.

Four and one-half per cent. on gross income in excess of \$6000, not exceeding \$8000 per mile.

Five per cent. on gross income in excess of \$8000.

Were it not for this classification, the equitable distribution of burden, with net earnings used as the standard of ability might be comparatively easily determined. For, as the ratio of operating expenses to gross aernings varied, the share of the burden would vary, and the problem would be how great are the variations which occur. The effects of the tax on gross earnings, however, have been so modified by the classification that it is necessary to study the problem of equity in the light of the experience of typical states where such a classification has existed. The history of the classification in Wisconsin will be taken as the basis of the study, because, there the classification is most pronounced.

## A. CLASSIFICATION IN WISCONSIN.

In Wisconsin the first law which divided the railways into classes was one of the results of the Granger movement. Popular sentiment in 1874 demanded, not only a decrease in the traffic charges of railways, but also an increase in the rate of taxation on railway corporations. In answer to this demand, the rate was raised from three to four per cent, of the gross earnings on all railway companies, The general industrial depression and two years' experience with the traffic charges fixed the "Potter Law" placed all but four of the railways in the state in a bankrupt condition.

It was clearly not expedient to levy a tax of four per cent. on the gross receipts of those railways which were not earning sufficient to pay the interest on their bonds. On the other hand, popular sentiment would not permit the rate on gross earnings of the comparatively prosperous roads to be reduced. To meet these conditions the railways were divided into three classes according to

gross receipts per mile.<sup>2</sup> Those railways whose gross receipts were \$3,000 or more per mile per annum constituted the first class; the second class included all railways whose gross receipts per mile were between \$1,500 and \$3,000; and the third class included all those whose gross receipts per mile were less than \$1,500. On the railways of the first class a tax of 4 % on gross earnings was levied; on the second a tax of 2 % on that portion of the gross earnings which exceeded \$1,500 per mile; and a specific tax of \$5 per mile of railway. Railways falling in the third class paid only a specific tax of \$5 per mile of road.<sup>8</sup>

The two objects of the classification were secured. The more prosperous roads fell in the first class and the state received a goodly revenue from them; while the weaker roads passing through undeveloped country were favored and thus the industrial development of the state encouraged.

During times of industrial depression in Wisconsin, as in other states, the individual tax-payer, feeling more keenly the burden of taxation, has turned his attention to corporations, and especially to the ralways as sources of revenue. The financial and industrial disturbances commencing in 1893 again brought the question of railway taxation before the public. It was said that railways were not paying their fair share of taxes, and the demand was made that their burden be increased.

The result of the agitation for an increase in the relative amount of taxes paid by the railway companies which concerns us in this chapter was a change in the classification. The object of the change was not only to increase the revenue derived from the railways and to correct cer-

<sup>&</sup>lt;sup>2</sup> Laws of Wisconsin, 1876, Chapter 97.

Railways operating on pontoon bridges paid 2 per cent. on gross earnings.

tain defects in the old classification, but also to appease the people and to postpone the question of an increase in the rates on all railways.

Discussion had revealed the fact that the old classification not only injuriously affected the revenues of the state, but worked unjustly among the railways. It was demonstrated that some railways, strictly obeying the law, might by means of the classification escape what would seem to be their just share of taxes as compared with other railways.<sup>4</sup>

To correct such faults was one object of the law of 1897, which divided the railways into six classes as follows:

| Class.  | Gross earnings per mile. | Tax.                  |
|---------|--------------------------|-----------------------|
| First   | \$3000 or more           | 4 %                   |
|         | 2500-3000                | 31%                   |
| Third   | 2000-2500                | 3 %                   |
| Fourth  | 1500-2000                | \$5 per mile and 2½ % |
| Fifth   | Less than \$1500         | \$5 per mile          |
| Sixth   | On pontoon bridg         | ges 2 %               |
| CD1 1 · |                          |                       |

The objects of the law were, as has been said, to increase the revenue from,—and to secure equity among,—the railways. The law was successful in that there was a slight increase in the revenue from railways; but it contained features which, from a revenue point of view permitted conditions to exist as pernicious as those which existed under the former classification. For example:

"The taxes paid by the Green Bay and Western Railroad in 1897 were \$3,745, and its gross receipts were



<sup>&</sup>lt;sup>4</sup>This is illustrated in the case of Minnesota, St. Paul and Sault Ste. Marie Ry. Co. In 1895 this company paid a tax of only \$9,486.15; their gross receipts per mile falling just below the limit of the first class. The next year they paid a tax of \$37,077.15; their gross receipts per mile being slightly above \$3000, this bringing them into the first class. Report of Railroad Commissioner, 1897, p. 7.

reported at \$442,319 or \$1,965.86 per mile. Under the law if the road had earned \$35 more per mile it would have paid a tax of \$13,500 instead of \$3,745. That is, a difference of less than \$8,000 of gross earnings by this road, made a difference in its taxes of nearly \$10,000."

This is only one of several similar cases which might be cited. It is evident that the Tax Commission did not believe the law was satisfactory from a revenue point of view, for they recommended that, ". . . there should be a closer classification of rates in such a manner that a very slight difference of earnings would not so unfavorably affect the revenues of the State." 6

Undoubtedly the new classification tended more toward equity among the railways than did the old. A classification with six divisions permits finer distinctions than one with two or three divisions. But there still existed great inequalities among individual railways. Accepting net earnings as the measure of ability to pay, many inequalities are made evident. Taking the year 1899 as an example, we find that in the first class there is a railway whose net earnings were only 23.27 % of its gross earnings, which paid a tax of 4% of gross earnings; while in the fifth class a railway company which had net earnings amounting to 49.45 % of gross receipts paid a tax of only five dollars per mile, or two-thirds of one per cent. on gross earnings.

The Tax Commission endeavored to show the inequalities in the classification by a comparison of cost of construction, and of the rate paid on such cost, using the taxes paid in 1897 to compute the rate. From this they were able to show that under the present classification a railway costing over \$3,000,000 paid a tax of less than \$500, that one costing over \$800,000 paid a tax of less than \$150. The Tax Commission did not argue that

• Ibid.



Report of Wisconsin Tax Commissioner, 1898, p. 133.

cost was a fair index of present value, but said that it could not be entirely disregarded in estimating present value.7 It should be noted that most of the railways referred to above were in the fifth class. Some of the railways paying only the specific tax declared dividends on their stock, while others were in the hands of receivers. The Tax Commission recommended in 1808 that the specific tax be abolished,8 and that there should be a "closer classification." The Governor recommended ". . . in view of these very noticeable inconsistencies" (he is speaking of the relation between taxes and cost and of the fact that some railways in the fifth class paid dividends) "that the classification be abolished, and a uniform license fee upon their gross earnings be charged all railroads doing business within the State regardless of what their mileage or earnings may be." 9

Although the defects of the classification and the inequalities resulting from it gave rise in some quarters to the demand for its abolition and for the establishment of a uniform rate, there was no attempt to discover either whether there was a justification for the classification and the tax on gross receipts or whether the system to be substituted would more equitably distribute the burden among the railways. That is, there was no serious attempt to discover to what extent gross earnings were a reliable base for a tax.

## II. THE BASIS OF THE CLASSIFICATION.

The experience of Wisconsin suggests three grounds upon which a classification based upon gross earnings may be defended.

<sup>&</sup>lt;sup>7</sup> Report, 1898, p. 134.

<sup>\*</sup> Thid.

Message of Gov. Edward Schofield, Madison, Wis., 1899, p. 10.

- (1) It encourages railway construction.
- (2) It recognizes the tendency of operating expenses to decline proportionally as gross earnings per mile increase
- (3) It maintains that ability increases at greater rate than net earnings.
- I. As to the first, the classification was used to encourage railway construction by providing for light taxation during the years of operation when traffic was light and earnings were low. How far this policy is desirable is a question outside the field of taxation, which will not be discussed.
- 2. There is a very general belief, often asserted, that a tax on gross earnings does not equitably distribute the burden among the railways because it does not take into consideration the difference in cost of operation. The Michigan Tax Commission states this objection as follows:—

"The operation of a specific tax on gross income tends to bring about a marked inequality in assessment as between the roads, conditions of operation do not enter into the question, and one road, by reason of its favorable conditions of traffic, may be operated at a very much less ratio of expense to income than another road of equal length, having expenses at a much higher percentage. Where its gross income may be the same, its net earnings power and its actual net worth may be much less than the former, and it is manifestly unjust that it should, by reason of these adverse conditions, be required to pay as much tax to the state." <sup>10</sup> That this is true in some instances cannot be denied.

The classification, however, may be said to be an attempt to take into consideration the differences in the cost of operation; the theory being that the denser the traffic, and the larger the business, the less the proportionate cost of operation. That is, as gross earnings increase per mile,

Michigan Tax Commission, 1900, p. 144.

the per cent. of operating expenses to gross earnings decreases. Taking net earnings as a basis of valuation, we see that as the amount of net earnings increases it is necessary to levy a heavier rate on gross earnings in order to lay the same rate on valuation.

Let us see to what extent this theory is justified by the facts as shown through railway operations in Wisconsin.<sup>11</sup>

These operations disclose two phenomena which are due to the classification. Taking the railway by classes as determined by the amount of gross earnings per mile, we see that the average per cent. of operating expenses to gross earnings decreases as gross earnings per mile increase, that is, the greater gross earnings, the greater the per cent. of net earnings. This is true if taken for one year. For example, if we take the per cent. of operating expenses to gross earnings as the basis of comparison in Wisconsin, it becomes evident that the operating expenses of the roads in the first class, whose gross earnings exceed \$3,000 per mile, average only 58.22 per cent. of gross earnings; the mean being 59.58. The railways of the third class whose gross earnings exceed \$2,000 per mile, have an average of 67.51 per cent., the mean being 68.25 per cent. Those of the fourth class with gross earnings greater than \$1,500 per mile, have an average percentage of 82.48 per cent. with a mean of 72.08 per cent.; while the railways of the fifth class expend on an average 81.14 per cent. of gross earnings as operating expenses, with a mean of 74.34.12 Taken for a series of five years, the results do not show so great a difference between the classes as for the one year period; yet, except in the case of the two roads constituting the fourth

<sup>&</sup>lt;sup>18</sup> See Table No. I, Appendix, p. 127.

<sup>&</sup>quot; See Table No. I, Appendix, p. 127.

class,<sup>18</sup> the same tendency is shown by the average. The tendency in other states, Missouri and Minnesota, for example, is in the same direction, though with greater variations.<sup>14</sup>

Looking through a period of years at individual roads whose gross earnings have increased markedly, we find that the tendency is for the ratio of operating expenses to gross earnings to decrease as gross earnings increase.

If we select representative systems in the Middle West, there is equal uncertainty in answering the question whether or not through a series of years operating expenses decrease or increase in proportion to the increase in gross earnings.<sup>15</sup>

On the other hand, statistics covering a longer period of years, and a larger number of roads, give very different results. When all the railways in the United States are considered as one system and the increase in gross earnings per mile for a series of years is considered, it is evident that the operating expenses increase at about the same rate as the gross earnings.<sup>16</sup> The averages secured from groups of states show the same results.<sup>17</sup>

An examination of the railway companies in several states shows that a tendency does exist for those roads where traffic is light to be operated at a proportionally greater expense than where the traffic is dense. It seems clear that the exceptions and variations from the average

<sup>&</sup>lt;sup>18</sup> See Report Wisconsin Tax Commissioner, 1903, pp. 206-208.

<sup>&</sup>lt;sup>24</sup> See Table No. II, Appendix, p. 128. <sup>25</sup> See *infra*, Chapter V, Section II.

See infra, Chapter V, Section II.

is It is only fair to say, however, that this criticism of the theory has its weaknesses. The statistics were, in the first place, averages of all the railways, and therefore might easily fail to show the operation of the majority of the individual companies; and, in the second place, the comparison was for a series of years and no account was taken of the increased cost of materials and labor.

by which the rule was formulated are too numerous to justify a classification on this ground alone, though it may be said that the classification would secure more equity than no classification. This will be seen when we apply the rates of tax on the various classes after examining the other theory of the classification.<sup>18</sup>

3. The principal justification of the classification is based upon the theory that ability to pay increases at a greater rate than net earnings. The law maintains that if a given income gives a fair return on cost of physical property, or on capital invested,—where an increase in net income gives an increased return on capital,—the state

The practices followed in estimating operating expenses are not uniform or consistent. Net earnings occupy the position of the residual claimant;—that is, from gross earnings are deducted (a) the expenses of conducting transportation, (b) the general expenses, including legal expenses, rentals, insurances, etc., (c) the maintenance of equipment, (d) the maintenance of way and structure. What items should be included under the various heads we shall not presume to say. All that is necessary is to point out that the difference in the practice followed by the various railways in charging betterments to operating expenses are sufficient to invalidate net earnings as now used as a safe base for a tax or as a reliable measure of the comparative burden borne by different railways.

For example, should one company charge improvements and additions of property to operating expenses, thus reducing net earnings and another company either pay for similar betterments from capital or not make the improvements, the net earnings of the respective roads would not be a measure of the difference in earning capacity of the two roads. Evidences of these practices are common knowledge. In the case of interstate roads the problem of the localization of earnings further complicates the situation.

<sup>&</sup>lt;sup>18</sup> Too great weight should not be given to results based upon the statistics showing net earnings. The term net earnings or receipts is used by railway officials to describe several different items, as may be seen by an examination of railway reports. The item usually selected to represent net earnings is income from operations, income from other sources being sometimes added to this. Income from operation consists of the gross earnings from operation minus operating expenses.

also should receive an increased return; that is, that the rate on earnings per mile should be raised.

For example, suppose that increased earnings provided for an increase of dividends from three to six per cent.; then the rate on net earnings taken for taxes should, let us say, double. Therefore, in order to increase the rate on net income, it is necessary to increase the rate on gross earnings as the latter increase per mile.

To sustain this theory, it must be shown that in the case of the individual railway (1) net earnings increase with an increase in gross earnings, (2) that the capital invested does not increase at the same or greater rate than net earnings, and in the case of two or more railways it must be shown that (3) roads having equal gross earnings per mile have an equal amount of capital invested, and (4) equal net earnings.

Under existing conditions, the first two propositions may be acceded to as being generally true, although hypothetical and even actual cases which are exceptions could be cited.<sup>19</sup> Granting these points, the problem becomes one of policy as to whether or not the progressive tax should be adopted, and in what manner the rate should be determined.

The third and fourth points relating to the equitable distribution of burden under the classification give rise to the problem of valuation. This problem is so complicated that we can call attention in this chapter to only the salient points. The two chief elements in the value of a railway, that is, the cost of reproduction and the earnings attract attention as bases for estimating the amount of capital invested.

Without discussing the reliability of these methods of determining value some of the conditions revealed in Michigan by the most thorough of all atempts in this

<sup>&</sup>lt;sup>29</sup> For confirmation of the first point, see Chapter V, Section II.

country to appraise the value of the railways will be pointed out. The engineers' estimate of the cost of reproduction made by Professor M. E. Cooley was supplemented by a valuation based upon earnings computed by Professor Henry C. Adams. The valuation revealed that railways having approximately equal amounts of gross earnings per mile varied widely in value if measured either by the cost of reproduction or by the value based upon earnings.<sup>20</sup>

If earnings are taken as the basis of valuation, then the shifting and adjustment of the value of property to the income derived may tend to produce for roads having the same equal earnings equal valuations. However, so many other elements enter into the valuation to modify this action, that it is not an entirely reliable adjuster of values.

In regard to the fourth point, the relation between the net earnings of the different classes has been discussed above. It remains to be pointed out that in each class more or less inequalities exist.

In actual operation the classification, tested according to the theory of the law, seems to justify itself.<sup>21</sup> It will be remembered that the tax on the first class was 4 % of gross earnings, on the third 3 %. Now its is evident that if we wish to leave the railways in the same relative positions after taxation as they occupied before taxation, 4 % on 42 % (the net earnings of roads of the first class) and 3 % on 33 % (the net earnings of the third class) will more nearly accomplish this than a uniform rate for both, for the ratio is almost equal, that is 4:42:3:31.5. A similar difference is also found in the case of the roads of the third and fourth classes. Now, if you do not wish to leave the railways in the same rela-

See Table No. III, Appendix, p. 130.

<sup>&</sup>lt;sup>m</sup> In examining the workings of the tax, the second ground for the classification should also be borne in mind.

tive positions after taxation as before, but wish to levy a progressive tax, the conclusions remain the same.

Granted that net earnings capitalized measure faculty, the classification can only be justified on the grounds of encouraging railway construction, or as a revenue producer.

Granted either that the ratio of operating expenses to gross earnings decreases as gross earnings increases, or that the faculty increases at a greater rate than net earnings:—the tax on the gross earnings of railways classified according to earnings per mile tends toward an equitable distribution of burden. The inequalities which exist will be confined to the differences in cost of construction and cost of operation of the roads in each class.

To secure equity, the classification should be closer than in Wisconsin, and the graduation of the rate should be a matter of careful study. The inequalities that still remain can not be avoided, but before they are permitted to condemn the system they should be subject to a comparison with the inequalities which exist in all other systems.

# CHAPTER V.

#### GROSS EARNINGS AS AN INDICATOR OF VALUE.

#### INTRODUCTION.

The question whether or not gross earnings are a reliable indicator of the taxable value of a railway can not be finally answered without establishing a criterion of tax value. No such criterion has as yet been established, though several methods have been used for estimating the value of a railway.

The object of this chapter is to discover to what extent these methods give a reliable basis to measure the effectiveness of a tax on gross earnings, and to what extent gross earnings are a reliable base as tested by the two most important of these methods, that is, the market price of the securities, and the net earnings.

#### I. AS MEASURED BY STOCKS AND BONDS.

The market price of the stocks and bonds has often been held to measure the value of a railway. The chief and much quoted authority on this subject is Mr. Justice Miller, who said in the State Railroad Tax Cases:—"It is therefore obvious that when you have ascertained the current cash value of the whole funded debt, and the current cash value of the entire number of shares, you have, by the action of those who above all others can best estimate it, ascertained the true value of the road, all its property, its capital stock, and its franchises; for these

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are all represented by the value of its bonded debt and of the shares of its capital stock." 1

The objections to this method of determining the value of a railway are both practical and theoretical, for whenever applied, it has been impossible to ascertain "the current cash value of the entire number of shares." first place, railway securities are not all on the market. In one of the most thorough attempts to apply this method the Interstate Commerce Commission found that "it was necessary to carefully examine a vast number of railway reports, price lists, and market quotations, and to conduct long correspondence with thousands of railway officials and other persons presumably able to furnish the necessary information." 2 In the end, they were confronted with the fact that out of over two thousand corporations issuing securities, there were only two hundred and twenty-five whose securities were quoted in such a manner as could be used.8 When the Wisconsin Commission applied the method, they found quotations for only eight out of forty-six railways,4 and the Michigan Commission were able to determine the market value of the stocks and bonds of only twelve out of one hundred and twenty-five railways.5

Moreover, when a railway company was listed upon the stock exchange, it did not necessarily follow that all classes of its securities were quoted. These conditions made it necessary, in all these atempts to apply the method, to estimate the market value of a large number

<sup>&</sup>lt;sup>1</sup>92 U. S. 575. Quoted by Wisconsin Tax Com., Report, 1903, p. 187. This report gives in detail the principal arguments, and authorities in favor of the stocks and bonds method of valuation of railway property.

<sup>&</sup>lt;sup>3</sup>U. S. Senate Document No. 178, 57th Congress, 2nd Session.

<sup>\*</sup> Ibid.

<sup>&</sup>lt;sup>4</sup> Report, 1903, p. 203.

<sup>&</sup>lt;sup>6</sup> Report, 1900.

of securities. As the method is one that pretends to give the buyer's statement, when other estimates enter in the basis is changed and the results are not what they seem to be.

In the second place, the objection has been raised that the securities quoted do not represent the property appraised. For example, the value of stocks and bonds, when used for purposes of taxation, includes localized property not used for railway purposes and locally taxed. —perhaps even located in different states. In discussing this point Prof. B. H. Meyer says:—"The greatest difficulty in applying the stocks and bonds method in arriving at a commercial valuation of railway property devoted to operation, lies in the separation from the former of property not devoted to operation. The stocks and bonds of a railway company represent the value of all property of the company, whether devoted to operation or not, lands, real estate in cities, mines, manufacturing plants, elevators, warehouses, stocks and bonds of other companies, etc." 8 Another similar objection is that the securities used for determining the value of a railway often do not represent the property. For example, objections were raised in Wisconsin to the application of the market price of the securities of a system to the securities of a branch of the system.7

It has been pointed out that not all the securities even of those companies listed are on the market. Moreover, of the securities of a given class offered for sale, only a small portion, or small blocks are sold at one time, so that market prices show only the prices paid for a small percentage of the total number of shares. These are



<sup>&</sup>lt;sup>6</sup> Prof. B. H. Meyer in "The Commercial Valuation of Railway Operating Property in the United States," U. S. Census Bulletin No. 21, 1904, p. 19.

Infra, Chapter VII.

grounds for the third criticism of market price as a criterion of the value of a railway.

In examining "market price" as a test of value, there are three chief factors to be considered,—(1) Exchange practices, (2) Control movements, (3) Investment securities.

# (1). Exchange practices.

Among the objections to market price as a criterion is the fact that quotations are often given when no sale has taken place. Mr. Dickenson says on this point:—"When there are no transactions whatever, it is a recognized daily practice to make a transaction before the close of business hours, in order to give the stocks or bonds a place in the quotations. There may may no demand or sale, but one is forced for the purpose, and so it goes out on a particular day that the price was quoted." 8

Under this head of exchange practices, may be included the purely speculative purchases which are so characteristic of our stock exchanges that little comment upon them is necessary. Mr. Dickenson's commentary upon this point is illustrative of common practices. He says "stocks are especially subject to the speculative tendencies of the times. When the speculative fever is high a stock may run up without any apparent cause twenty-five points or more, and at other periods when there is no speculation, it may go much lower."

It is obvious that to the extent that they are common these practices vitiate market price as a criterion of the value of the property.

A share of stock is valuable, not only from its right to participate in the earnings of a property, but from the fact that it gives a control over the corporation. In fact,

<sup>&</sup>lt;sup>9</sup> J. M. Dickenson. Railway Taxation in Wisconsin. Argument made before Joint Commission on Assessment and Collection of Taxes. Wisconsin Legislature. Madison, Wis., 1901.

the owners of many of the stocks issued can have no hope of dividends in even a distant future; in which case the market price represents either the speculative movements mentioned above or a value due to the control which the ownership of the securities gives.

The market value of stocks and bonds is sometimes inflated beyond the real value by these circumstances of "control." For example, if the majority stock is held in block, all of the other stock may command no price whatever on the market. "Market price" under these conditions would be of little use as a measure of value of the railway.

On the other hand, it should be borne in mind, that while some of the securities are valuable on account of the control element, others are valuable and have a market value, because they produce an income. In the case of these latter securities, it may be argued that the market price is lower instead of higher than the value put upon them by the holders. For if the market price were higher than the value placed upon the securities by the holder, he would dispose of them at the market price.

It is doubtless true, however, that while the few shares transferred on the exchange may bring a given price, if the total number of securities were placed on the market, the price would decline so materially that the price paid for the few would be no indication of the market price of the whole.

When the securities are held as an investment on account of their income producing ability, the amount of income is limited by the amount of net earnings. Other elements may enter into the valuation to modify the relation between net earnings and market price,—such as a feeling of risk depending upon the general physical condition of the road, and the policy of the officials, but the

chief factor that enters into the valuation is the income produced.

To what extent each of these different elements enters into the "market price" it is not possible to determine, but the objections are strong enough to indicate that the market price of stocks and bonds is not an absolute or an accurate measure of the taxable value of a railway.

Although the estimated market price of the securities of a company is not an accurate guide to the taxable value, it is interesting to use the value thus determined to test the gross earnings as a base.

A comparison of the market price of securities and the gross earnings of all railways in the United States gives indications of the relation between market price and gross earnings. Taking the railways by groups, we find that the ratio between gross earnings and market price ranges from 11 % to 40%. The average, however, is 23 %, and seven out of the ten groups are within 50 % of that average.

TABLE NO. IV.

MARKET VALUE OF SECURITIES AND GROSS EARNINGS.

|       | June 30, 1900<br>Market Value (*) |                     | Per Cent.      |
|-------|-----------------------------------|---------------------|----------------|
| Group | Market Value (*)                  | Gross Earnings (10) | G. E. to M. V. |
| I     | . \$578,177,824                   | \$108,289,736       | .18            |
| II    | . 2,171,479,126                   | 415,141,934         | .19            |
| III   | . 826,997,648                     | 239,346,057         | .28            |
| IV    |                                   | 62,936,302          | .20            |
| V     | . 559,888,941                     | 124,142,250         | .22            |
| VI    | . 1,624,388,015                   | 316,651,650         | .19            |
| VII   | . 341,987,209                     | 63,411,002          | .II            |
| VIII  | . 992,011,963                     | 139,020,798         | .14            |
| IX    | . 145,583,253                     | 58,479,629          | .40            |
| X     |                                   | 119,508,085         | .19            |
|       |                                   |                     | _              |
|       |                                   |                     | .23            |

In Wisconsin, where the statistics of the average market price and the average gross earnings cover a five in-

<sup>\*</sup>U. S. Senate Document No. 178, 57th Congress, 2nd Session.

<sup>&</sup>lt;sup>26</sup> Statistics of Rys. in U. S., 1904, pp. 77, 78.

stead of a one year period, and where the physical and industrial characteristics of the territory do not introduce so great variations, the ratio does not show so great a range. The difference between the extremes is only 8 per cent. The average ratio between gross earnings and market price is 16.5 per cent., and that of six out of the eight individual railways, the market price of whose securities could be found, is within  $2\frac{1}{2}$  per cent. of this average.<sup>11</sup>

### TABLE NO. V.

| Road                       | Market Value<br>(3 Years <sup>11</sup> ) | Gross Earnings 3 Years (18) G. | Per cent. of<br>E. & M. V. |
|----------------------------|------------------------------------------|--------------------------------|----------------------------|
| I. Chicago, Mil. & St. P   | \$74,124,195                             | \$12,653,708                   | .17                        |
| 2. Chicago & Northw'n      |                                          | 12,941,244                     | .19                        |
| 3. Chi., Št. P., Mpls, & A | 28,439,595                               | 3,929,584                      | .14<br>.16                 |
| 4. C., B. & Q              | 8,639,315                                | 1,426,010                      | .16                        |
| 5. Green Bay & Wis         | 1,759,750                                | 474,603                        | .26                        |
| 6. Mpls., St. P. & S. S. M | 8,443,000                                | 1,421,630                      | .16                        |
| 7. Northern Pacific        | 3,569,214                                | 438,359                        | .o8                        |
| 8. Wisconsin Central       | 26,391,000                               | 4,748,272                      | .17                        |
|                            |                                          |                                | -6 -                       |

There is so marked a relation between the amount of gross earnings per mile and the market price of stocks and bonds per mile, that while gross earnings can not be said to be an absolutely accurate guide, they are a fairly reliable measure of the extent that market price indicates value.

## II. AS MEASURED BY NET EARNINGS.

1. In order to determine to what extent ability to pay is discovered by a tax on gross earnings, a standard of value is necessary.<sup>18</sup> In accepting net income as this standard, we have adopted the guide generally accepted

<sup>&</sup>lt;sup>11</sup> Statistics from Wisconsin State Tax Com. Report, 1903, p. 203. <sup>13</sup> Ibid, p. 206.

<sup>&</sup>lt;sup>19</sup> For the objections to net earnings as a criterion, see note at end of chapter.

in commercial valuations.<sup>14</sup> Moreover, income from operation was employed as the basis of capitalization by the United States Census Bureau in estimating the value of all the railways in this country.<sup>15</sup> It was also the method followed by Prof. Adams in estimating the value of the railways in Michigan.

A glance at the statistics of railway operations for the past decade will show that if we accept as our measure of faculty the above guide, there has been a marked increase in ability to pay taxes. The statistician of the Inter-State Commerce Commission, in pointing out these conditions, says: "The effect of recent years of prosperity upon the finances of railways is shown by comparing the current year with the year ending June 30th, 1897. By referring to the above summary it appears that the gross earnings per mile of line were \$6,122 as against \$9,306 for the current year; operating expenses per mile of line were \$4,106 as compared with \$6,308 for the current year; and net earnings from operation were \$2,016 as compared with \$2,998 for the year covered by this report. Dividends increased from \$447 per mile of line in 1897 to \$1046 per mile of line in 1904, while the book-keeping surplus increased from a deficit of \$33 per mile of line to a surplus of \$267 per mile of line."16

Since we are endeavoring to discover to what extent gross earnings are a reliable basis for a tax, from the revenue point of view it is pertinent to ask to what extent a tax on gross earnings would have discovered this increase in value. In choosing net income as the measure of this increased value, let us accept the definition of the

<sup>&</sup>lt;sup>16</sup> See J. Shirley Eaton. U. S. Census Bulletin No. 21, pp. 153 et sea.

Ibid, p. 9.

<sup>\*\*</sup>Report Statistics of Railways in the United States. Interstate Commerce Commission, 1904.

term followed by the Census Bureau, namely, income from operation. Income from operation is the function of operating expenses and gross earnings. As the ratio of operating expenses to gross earnings varies, the sum from which taxes should be paid varies also. In order, then, to discover the results of a tax it is necessary to examine the variations of this ratio.

As gross earnings per mile vary, the ratio to operating expenses may increase, remain constant, or decrease. The workings of the tax on one railway under different conditions of gross earnings per mile and different per cents of operating expenses to gross earnings are exceedingly complex.

Introduce variation in capital value, or in the policy of depreciation, maintenance or betterment, and new differences arise. Introduce several roads and the opportunities for inequalities are innumerable. Introduce railway statistics and it is virtually impossible to measure the results. These theoretical possibilities, however, should not wholly condemn a tax on gross earnings, for similar inequalities will be found to exist in any tax system as yet devised.

If we assume net earnings, then, as a measure of ability, we find that a tax on gross earnings would reach the increased value due to increased net earnings, in the case of a constant or an increasing ratio; but in the case of a decreasing ratio, part of the additional value due to increased net earnings would not be reached by such a tax.

Before it can be stated to what extent gross earnings are a reliable basis for a tax, under existing conditions, we must attempt to determine under which of the ratios railways are, as a general rule, operated. After this has been determined, the next step in the procedure is to levy the tax and examine the results.

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In order to form an opinion on this question let us examine the statistics of railway operation, first of all the railways in the United States; second, of all the railways in a group of states; third, of all those in a single state; and, fourth, of individual systems. The railways in this country considered as one system form an interesting basis for an examination of railway operations. From 1897 to 1904 their average gross earnings per mile increased from \$6,122 to \$9,306; income from operation from \$2,016 to \$2,998; and total income from \$2,699 to \$4,001.17 The gross earnings during this period increased at a greater rate than did net earnings, the increase of the former being 52 %, that of the latter 48 %. however, instead of taking the years 1897-1904 for comparison, we examine the conditions of 1896 and 1903, the statistics show that gross earnings per mile increased 49 %, while net earnings per mile advanced 56 %.18 During these years (1896-1904) the ratio between operating expenses and gross earnings varied considerably. From 1896 to 1900, the per cent. of operating expenses to gross earnings fell from 67.20 to 64.65, from which point it gradually rose to 67.79 % in 1904. Gross earnings per mile showed an increase of 25 % in 1900 over 1896, while net earnings increased 36 %; but from 1900 to 1904 gross earnings increased 18 % and net earnings only 14 %.

If now, we compare the railways in what Poor's Manual calls the North Central Group,—composed of the states of Ohio, Michigan, Indiana, Illinois, and Wisconsin, the results show similar tendencies. In this group of states, gross earnings increased 47 % from 1896 to 1903, net earnings 42 %, and the per cent. of operating

<sup>&</sup>quot; See Table No. VI, Appendix, p.

<sup>28</sup> Poor, Manual 1904, p. IV.

expenses to gross earnings increased from 69.89 % to 70.81 %.<sup>19</sup> Selecting the railways in individual states, Iowa for example, we find the increase of gross earnings from 1897 to 1903 is 48 %, while that of net earnings is only 27 %.<sup>20</sup> The railways in Missouri show an increase in gross earnings per mile from 1897 to 1904 of 41 %, and in net earnings an increase of 30 %, while the cost of operation during the two years is practically the same.<sup>21</sup>

An examination of individual railway between the years 1897 and 1900 shows <sup>22</sup> on the other hand, that in the case of the Chicago, Burlington and Quincy, gross earnings increased 26%, net earnings, 30%, and the ratio of operating expenses to gross earnings decreased slightly. A similar condition exists in the operations of the Chicago, Indianapolis, and Louisville Railway, where the gross earnings increased 68% and the net earnings 119%, the cost of operation decreasing from 70.36% to 61.51% of gross earnings. The gross earnings of the Illinois Central increased 49%, while net earnings increased 50%.

Here, however, we find that other roads show a gain of gross earnings over net earnings. For example, the Chicago and Northwestern gained 27% in gross earnings, and only 8% in net earnings, operating expenses increasing from 60.94% to 63.105 of gross earnings; the Chicago, Milwaugee and St. Paul shows an increase in gross earnings of 44%, in net earnings only 23%, operating expenses increasing from 57.05% to 63.21% of gross earnings; the Wabash shows a similar tendency, gross earnings increasing 43%, net earnings 17% and

<sup>&</sup>lt;sup>20</sup> See Table No. VII, Appendix, p. 131.

Report of Railroad Commissioner, 1904, p. 9.

<sup>\*</sup> Report of Railroad and Warehouse Commissioner, 1904.

<sup>&</sup>lt;sup>22</sup> See Poor's Manual, 1904.

operating expenses increasing from 69.22 % to 74.81 % of gross earnings.

These variations in the ratio of operating expenses to gross earnings can not be explained as due to any one factor. The different policies with regard to charging betterments to a more or less degree to operating expenses, especially the very general practice of making improvements during prosperous years, and of postponing replacements during lean years, may partly account for some of the changes. Moreover, on the one hand, the greatly increased cost of fuel, and materials, and the advance in wages, and on the other hand the general decrease in rates are indefinite but important factors that have affected the ratio.

While the above and other factors may modify the results, it would not, if we judge by the typical statistics cited, be correct to say that net earnings increase at a greater rate than gross earnings, but that the tendency is, when gross earnings per mile increase, for the ratio of operating expenses to gross earnings to remain fairly constant or to increase.<sup>28</sup>

3. To measure the extent to which a tax on gross earnings will reach increased value of railways, let us levy such a tax on the gross earnings of the railways operated under the conditions discovered above. Assume for the purpose of having a standard for comparison that income from operation is correctly reported, and that it is an accurate measure of ability.

In the first place, levying a tax, let us say, 10 % on the average gross earnings of all the railways in the United States in 1897 would have produced an amount equal to a tax of 30.3 % on net earnings. From 1897 to 1904 the gross earnings per mile increased from \$6,122 to

<sup>\*\*</sup> See Table No. VIII, Appendix, p. 131.

\$9.306. A 10 % tax on the latter was therefore equal to 30.3 % on net earnings. In the North Central group of states, a tax of 10 % on gross earnings was equal to 32.7 % on net earnings in 1897, the variations in ratio of net earnings giving a range from 31.9 % in 1899 to 34.4 % in 1903. Examining the individual railways where net earnings increased at a greater rate than gross earnings, we find that the Chicago, Burlington, and Quincy, for instance, shows that a tax of 10 % on gross earnings in 1898 was equal to a tax of 25.9 % on net earnings, while in 1903 the same rate on gross earnings produced an amount equal to 25.1 % on net earnings. A tax of 10 % on gross earnings of the Chicago, Indianapolis, and Louisville, was equal to 33.7 % on net earnings in 1897, while in 1903 it was equivalent to only 25.9 % on net earnings.

The Illinois Central, taxed at the same rate, would have paid 29.7 % of net earnings in 1897 and 29.4 % in 1903. The above instances clearly show if we assume net earnings as an accurate measure, that a tax on gross earnings at a given rate does not reach all the value accruing with an increase in gross earnings. eral rule as shown by the statistics is that the ratio was either constant or decreasing. Those railways which show a relatively larger increase of gross earnings than of net earnings show that a tax of 10 % on gross earnings in every case reached the increased value. For example, levying a tax of 10 % on gross earnings and comparing the burden borne by net earnings in different years, we find that the Northwestern could have paid 25.6 % of net earnings in 1897, and 30 % in 1903; the Chicago, Milwaukee, and St. Paul 23.2 % in 1897 and 27.1 % in 1903; the Wabash, 32.4 % in 1897 and 39.6 % in 1903.

Applying this test to Wisconsin it is found that gross earnings increased from 1882 to 1902—240 %. Income from operation increased 199 %. Owing to the increase in rate taxes increased during the twenty years 291 %.<sup>24</sup>

Taking net earnings as the measure of value, it is safe to conclude that, with few exceptions, a tax on gross earnings does reach the increased faculty due to increased net earnings, and is therefore reliable as a revenue measure.

NOTE.—Net earnings as a measure of value are subject to the same objection as that often urged as one of the weak points in a tax on gross earnings. This objection is stated by Professor Seligman (Essays on Taxation, p. 196) as follows: "It (the tax on gross earnings) takes no account of original cost. . . . For example, when the cost of building a railroad is great, its gross earnings must be correspondingly large, in order to enable the owners to realize any fair return on the investment. A tax on gross earnings does not recognize this distinction. It discriminates unfairly between companies, and makes a line built at great expense and with great risk pay a penalty for the enterprise of its constructors." This objection applies to net earnings as well as gross earnings, as a measure of ability, but it applies with double force, for, as the cost of betterments is charged to operating expenses, the cost of the road increases while the measure of ability, net earnings, decreases. The fact that while a railway may show a deficit from operation, it may still be of considerable value as a railway, should also be noted.

It is assumed in the above chapter that the net earnings capitalized will show the value of the road. But if the theory on which the classifications are based is adopted, then the above conclusions must be modified.

<sup>\*</sup> See Wisconsin State Tax Com. Report, 1903, pp. 213-214.

## CHAPTER VI.

### THE AD VALOREM SYSTEM.

#### INTRODUCTION.

Perhaps the fairest test of the effectiveness of a tax on gross earnings would be a comparison with another method of taxing railway property. The predominant system for railway taxation in the United States is the ad valorem system. Its characteristic feature, at least in the Middle West, is the appraisal of the railway property by a state board. The most important problem in this connection is to discover the basis of this appraised value. Therefore, in making a comparative study of the system, many questions of importance must be omitted, no attempt being made to trace the development of the tax through legislative changes and interpretations.<sup>1</sup>

The plan of this chapter is, first to state the law and then to study its administration. The operation of the system in Missouri has been selected as the basis for study, as the method there has been in force for over thirty years.

## I. THE LAW; THE MACHINERY; AND THE PROCESS.

All railroads constructed or in the course of construction, and all other property, real, personal, or mixed, owned, hired or leased by any railway company or cor-

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<sup>&</sup>lt;sup>1</sup> It is interesting to note that there were between 1871 and 1899 over eighty changes made in the wording of different sections of the law.

poration in the state, are subject to taxation for state, county, municipal or local purposes. Such property is assessed by the State Board of Assessment and Equalization. This Board, composed of the governor, the secretary of state, state auditor, state treasurer, and attorney general, meets annually at the capitol, for the purpose of assessing, adjusting and equalizing the valuation of the railway property in the state.

The courts have held that the first duty of the board is to consider in the aggregate and as an integrity, all the property owned by each railway in the state. Its understood value is assumed to have been reported by the president of the company. "If this reported estimate is either too high or too low, it must be 'adjusted,' which, according to the received definition, means 'fitted, made accurate.'" The exact relation which the property bears to a money standard must be so fixed. And, secondly, "if one company, upon a comparison of the extent and amount of its possessions with those of another, appears to have assumed a lower or higher standard of value, they must be 'equalized.'" These processes comprehend the function of the board.

The law provides that data shall be furnished the board in the following manner:—on or before the first of January in each year, the president of each road in operation must furnish to the state auditor a sworn statement describing in detail the length of the road, rolling stock, etc., and the actual cash value thereof. A duplicate of this statement is sent to the clerk of each county in which the road is located. The clerk lays the statement before the county court, which body examines the statement to determine its correctness as to the description of the property and the valuation thereof. If the statement is correct, the clerk at the motion of the court certifies the fact to the state auditor; if found, in the opinion of the

county court, to be incorrect as to description of the property, or the value not sufficient or inadequate, the court states what it believes to be the actual cost value of the property and ascertains what property has been omitted, and returns a description thereof to the state auditor. All property thus omitted is taxed at double its cash value.

The state auditor lays the statements of the president of the railway, and the documents from the county court before the state board. Should the railway company fail to make any returns, the board is authorized to act on the best information it can secure as to the property of the railway and its value.

To supplement the powers above mentioned, the board has authority to summon witnesses by processes issued to any officer authorized to serve subpænas, and has the power of a circuit court to compel attendance of such witnesses, and to compel them to testify.

Having secured the reports from the railway, the board has the power to increase or reduce the aggregate valuation of the property of any railroad company. In assessing, adjusting and equalizing any railway property, the state board may arrive at its finding, conclusion and judgment upon its knowledge or such information as may be before it, and is not necessarily governed in its findings, conclusions and judgment by the testimony which is offered.<sup>2</sup>

"The state board of equalization being composed of persons designated by the constitution of 1875 and the laws, to assess and fix the value of the property in controversy and of all railways and their property, their valuation is conclusive and final, and the courts cannot examine the mode of reasoning or basis adopted by them

<sup>&</sup>lt;sup>2</sup> 101 Missouri, p. 120.

<sup>58</sup> Missouri, p. 372.

<sup>64</sup> Missouri, p. 294.

in ascertaining the value." 8 These decisions give the board a free hand, almost unlimited power. If it fails to perform its duty, it is not because it lacks power.

The board, having adjusted and equalized the value of a railway property, must apportion it among the various subdivisions. This apportionment "is based upon the ratio which the number of miles of such road completed in such county shall bear to the whole length of such road." Not all property is apportioned according to this rule.

The property is of two classes, the distributable and the local. The former consists of tracks, depots, water tanks, turntables, engines and cars of every kind and description, and all other movable property.

The latter consists of "all other property of the railway company, real, personal or mixed, including lands, machine and work shops, round houses, warehouses and other buildings, goods, chattels and office furniture of whatever kind." The former is assessed by the state board in the aggregate, so far as value is concerned and distributed for the purposes of taxation to the political or municipal subdivisions, within which the railroad is located, by the mile.

The number of miles of the railroad is not to be measured by the length of its main track, or of its main track and side-tracks combined. It is the length of the whole thing,—a railroad, that is to be measured, its length between the terminal points, and in its subdivisions,—and the value apportioned accordingly.

The state auditor sends certified copies of the proceedings of the state board to the railway companies and also to the county courts of the proper counties, setting forth in detail the length of the railroad in the state, and in the

<sup>\*</sup>State ex rel vs. H. & St. J. Ry., 97 Mssouri, p. 348. Attorney's petition.

county, city, town, village or municipal township, and the value per mile of road and of rolling stock.

The county court after having ascertained the rate per cent. of the respective taxes on the railroad, and the property thereof in each county, town, etc., at the same rate as is levied on other property for state, county, municipal township, city, incorporated town and village and school purposes, levies the rate on the assessed valuation.

The county clerk must keep a railway tax book, giving in detail not only a description of the property and value per mile in the state and county, and length and value in the various subdivisions, but also the local property of the railway, such as the "lands, machinery and workshops, warehouses and other buildings, goods, chattels, and office furniture," which is assessed by the local officials. The clerk certifies to the railway company the amount and kind of taxes levied in his county.

The taxes are due on the first day of September in the year in which they are levied, and when delinquent they are a prior lien on the railway company's property, which may be seized and sold to satisfy the lien. The taxes are collected by the county collector, and the state taxes paid into the state treasury monthly, and all others into the county treasury and from there distributed.

## II. THE PROCEDURE OF THE BOARD.

The only official record of the State Board is its Journal, from which very little can be gleaned as to the methods followed. The Journal records the meetings and adjournments, etc., the fact that Mr. B. appeared before the board in relation to the valuation of the lines of his company. It records none of the evidence or testimony introduced by representatives of the road or others. It gives the final results as to valuation, but does not record



how they were reached. As a result one can obtain from it very little information as to the actual workings of the board.

To reach any conclusions as to the effectiveness of the system, we must have a much closer view into the work than the Journal can give us. In three ways the writer has endeavored to obtain this,—by attendance at the meetings, by personal interviews and correspondence with members or ex-members of the board, and through examination of a typewritten copy of the stenographic report of the proceedings, and testimony, which is prepared for the personal use of each member.

# I. Data Before the Board.

It has been shown in what way the data bearing upon the value of a railway may be placed before the State Board. The next step is to ascertain whether such information as may be gleaned from the data seems to be sufficient to enable the board to reach correct conclusions.

The blank sent out by the state auditor calls for three items which may be the bases of the valuation. In the first place, it calls for reports on market value of stocks and bonds on June 1st; but prescribes no method by which this value shall be ascertained. Not considering other objections to the stocks and bonds method of valuation, the failure to prescribe a rule for determining market value vitiates the results from the standpoint of uniformity.

In the second place, the blank calls for "gross, and net earnings of each particular line or branch in and out of the state." So far as gross earnings are concerned, the problems of determination and localization that have been discussed in another chapter arise. When the item of net earnings is introduced the statistics are, as we have seen, of little value. The third item which might be used, but which in practice is of no value, is the reported "cash value" of the railway.

No report is called for nor description made of the condition of the physical property of the railway. It would seem that the written reports reveal information inadequate as the basis of an appraisement. The reports of the county court serve only as a check upon reports in regard to new depots, new mileage, etc., and in actual service are of little value.

The written reports may be supplemented by the testimony given before the board at its public meetings. This source of information consists, for the most part, of arguments presented by railway officials. For example, during the year 1898, there appeared at these hearings as representatives of railway companies, five railway presidents, one vice-president, five general managers, two superintendents, thirteen tax commissioners, fifteen attorneys, and one chief clerk to the general manager. A committee representing the St. Louis Single Tax League, and the president and a member of the St. Louis Board of Assessors also presented arguments to the Board.

The matter presented to the board by these representatives is of so heterogeneous a character, varying from lamentations on account of washouts to arguments upon some proposed theory of valuation, that it does not lend itself to classification. The one common element is the plea on the part of the railway officers for a reduction of valuation, on the ground that railways were paying more taxes than other property.

A favorite comparison of burden was to assume the value of a railway or any part of it, such as a bridge, to be the cost of reproduction, and to compare the difference between assessed value and cost of reproduction with the difference between assessed and market value of land.

For example, we find one railway claiming that, as land in Holt County is assessed at one-third of its value, a railway bridge located in that county which could be reproduced for \$196,002 should be assessed at one-third of that amount instead of at \$118,750 as assessed by the board.<sup>4</sup>

The facts and arguments presented by a single railway official will vary from year to year according to the interests of the railway, and during the same year will differ in different states. A common practice is to segregate different phases of the industry and to argue from some peculiar condition. Some of the arguments are sane, others senseless.

At one time it is argued that railways should have special consideration because 75 per cent. of their expenditure remains within the state as wages. One official claimed clemency for the railways on the ground that they are "philanthropic institutions," because "they help the poor from city to city,"—they contribute to county fairs, they protect the public by using certain safety appliances, and by increasing the value of land, cause more revenue to come to the state. They call attention to the fact that where, as in Missouri, maximum rates are fixed, it is impossible to increase rates during a period of prosperity to compensate for periods of business depression.

An interesting piece of testimony on the value of public hearings is found in the following statement of a member of the board which assesses railways in Iowa:

"Part and parcel with the lack of method in our railroad assessment is the change from year to year of the arguments adduced for not increasing or changing the assessment of the roads chiefly represented in the council. In 1895 I heard a distinguished judge, who acts as attorney for one system, argue earnestly for 'Gross earnings'

<sup>\*</sup> Pollard, p. 122. (Stenographic Report.)

as 'the only proper basis under the law' for assessing roads. That year the gross earnings of his road had fallen off. Hence his contention. A colleague at that time remarked to me that the next year, if conditions changed, the judge would argue as strenuously for another basis in order to keep down the assessment of his road, as he had changed his tactics nearly every year prior to 1895. The prediction was verified. In 1896 he insisted that 'cost of construction' should determine. The next year he dwelt upon 'geographical distribution.' In 1898 he submitted a celebrated typewritten argument, in which he returned again to 'gross earnings.' The argument in 1899 was that 'value of the property' should be taken as a basis. Each year the new arguments were potent so far as his railroad was concerned, for they prevailed." <sup>5</sup>

In exceptional instances evidence of a character to assist in fixing the value of a railway appears, but, on the whole, it is practically valueless.

# 2. The Valuation by the Board.

With the evidence before the board, three possible ways of determining the valuation of a given railway suggest themselves. (1) They may arrive at the result with mathematical precision by working with the statistics. If so, it is desirable to know what method they follow, whether they reach the results by capitalizing the net earnings, or taking the value of stocks and bonds at par or at market value,—or by what other method. (2) They may let the personal element, their judgment, enter into the determination of the value. If the latter is true, our task would be practically an impossible one, although we might find indications of the method followed in individual cases. (3) They may accept the results secured by preceding boards, and announce the valuations with little change.



Herriott: Taxation of Railroads in Iowa, p. 7.

As has been said, there are three sources of information on these problems, the typewritten copy of testimony and arguments given before the board, personal interviews, and the official Journal.

The official record, the Journal, shows that it has been customary for years to divide the property of the railway companies into classes and then to put a valuation upon these parts separately. Taking one road as a typical example, we find that the Hannibal and St. Joseph Railway was assessed at \$13,000 per mile, while the Cameron branch of the road was assessed at \$16,500, the Atchison branch at \$7000, and the Palmyra branch at \$7000. During the same year, the buildings of all but two railways were assessed at the same amount as for the previous year, as were also the cars belonging to private car companies. Equipment was divided into classes,—locomoitves, passenger cars, freight cars, etc.,—and a value assigned to a unit in each class.

The best evidence of the board's failure to arrive at a valuation comes from its own utterance. In 1898 the Attorney General endeavored to have the valuation made as an entirety and tried to persuade the board to accept some distinct method for determining the value of a railway, such as capitalized earnings, the market value of stocks and bonds, or gross earnings.

This endeavor to have some method adopted for determining valuation of an entire property met with the following answer as adopted by the majority of the Board:

"Whereas: All of the State Board of Equalization of Missouri, since their creation of law have uniformly construed this statute to mean that the assessments of railways be made upon the value of the various properties as they exist in the State of Missouri, now therefore be it

"Resolved, that in the assessment of railroad properties, as far as trackage, buildings and other properties

enumerated in Section 7118 except rolling stock are concerned, this Board will follow the precedent set by its predecessors and sanctioned by long continued usage, assessing each and every railroad company according to the value of the property owned by the company in the State of Missouri, distributing said valuation from one end to the other of each particular line in this state.

"Resolved further, that in order to arrive at an intelligent basis for valuing the several railroad properties, this Board will continue the practice of its predecessors in considering in a general way the cost of construction as modified by changes, the earning capacity, and all other available sources of information." This evidence negatively proves the lack of system and scientific method in determining the value of a railway.

Not only are the results of the method used by the board subject to criticism, but the method itself can not be justified. A car has little value per se, being of value chiefly for the service which it can render, and this service is not determined by the original cost, the cost of reproduction, or the cost minus depreciation. In fact, the system of separating the road into parts for separate valuation is a mere form, an attempt to deceive the public, and a farce.

In the absence of a rule the personal judgment of the members of the board enters into the determination of the value. To what extent they are qualified to form a correct judgment on the value of a railway it would be impossible to state.

A careful examination of the proceedings of the board noting each remark and question of every member fails to show in what manner the members arrived at their judgment. Thirty-two persons appeared before the board in 1898. Of the questions asked them by the board, nine were in regard to comparison of assessment

Journal, p. 34.

in another state, or between two railways, twelve in regard to rolling stock, twelve concerning buildings, seven about stocks and bonds, five on trains, one on earnings, and four miscellaneous. Most of the questions were such as had been answered in the report made to the auditor by the president of the railway. The following is typical:

"How are your taxes in Missouri as compared with other states?"

"You return no chair cars this year?"

"What is your stock quoted at to-day?"

"Are the buildings on the right of way the same as last year?"

"How do you regard the eastern and western divisions as to earnings?"

So far as we may infer from the questions, they were mainly endeavors to confirm the returns already before the board, or to answer some question which was casually raised in the mind of a member.

Interviews with members of the board bring forth the following facts: (1) There is no absolute rule followed by the board for determining the value of the roads. The conclusion naturally follows that it is not arrived at with mathematical precision. (2) The views of the members upon the subject are either vague or they do not care to express them. One member says that the property is valued "on the same basis as other property," and that "they consider the physical condition of the road,—the stock and bonds and earnings," and adds that every man on the board has his own views as to the amount of water in the stock. The members of the board, he says, are "men of affairs, and have general notions of everything," but acknowledge that to arrive at the value is "a very difficult problem." The Governor of the state said, in regard to the assessment of railways, "There is more

guesswork in an assessment than in anything else on earth."

There is no need to dwell on the difficulty of determining the value of the railway property, and the chaos which would follow if it were literally true that every member of the board fixed the value of the property according to his individual judgment. As a matter of fact. the records prove conclusively that the boards follow the valuations set by their predecessors. Here is a typical instance. In 1898 the Wabash Railroad made an investigation of the ratio of taxes to market value paid on lands in the counties in which its line is situated. The officers produced evidence from Ever County, and proved to the satisfaction of the board that the railway was paying a greater rate than the other property, but the board felt compelled for political reasons to ignore these facts. and to follow their predecessors' valuation. In fact, in Missouri, the increase in assessed value was usually in response to political rather than economic conditions. The customary term for the governor of the state is two legal terms of two years each. The records of railway assessments show an increase of total assessed value which corresponds to the changes in the administration. It is customary for each new administration to increase the valuation about ten million dollars. Having made the increase during the first year, only slight changes are usually made at the next three assessments.

To what extent this customary increase has corresponded with the increase in value, it is impossible to estimate in the absence of other valuations covering the same periods.

Other factors which determine the working of the board may be suggested by a glimps at its membership. Of the twenty-five members on the board from 1876 to 1900, twelve have given their occupation as lawyers,



four as editors or interested in journalistic enterprises, two as bankers, one as a liveryman, six as farmers or not given. But when their careers are investigated, we find that one of the lawyers has held public office for thirtyone years, another for twenty-three years, another for eighteen years, etc. One of the farmers had held public office for twenty-six years. One man had been on the state board for sixteen years, another twelve years, and nineteen for only four years or less. Over half of the twenty-five members had held public office for ten years or more. In other words, the office-holders have been Their fitness to act as members of a board politicians. of assessment of railway property consisted mainly in their political strength and sagacity. Those who are familiar with the history of the railways in their relation to many of our commonwealths, see beneath the forms of procedure and the machinery of the law, the real forces which often direct and control the machinery of the law, when acting on raiway property.

Writing of one board of assessment thus controlled, one of the members says, "Having vast resources and an army of shrewd and skilled men at their command, railroads can exert a tremendous influence in primaries, conventions, and elections. They get one candidate for public office, and promote their—(his)—candidacy with vigor and marked efficiency. To show to what extent this is true, I need but to call attention to the fact that it is customary for the press and people to refer to this and that member of the executive council as, a "Northwestern man," a "Milwaukee man"; this aspirant for office is the "Q" candidate, that one is a "Rock-Island" or "Illinois Central" man. So valuable are the services of members of the council who are willing to represent and protect

railroads in the assessment that the campaign expenses of candidates are sometimes supplied them." <sup>7</sup>

The student of industrial history often lacks the evidence which is in the hands of the man of affairs, yet a good case may be made against undue favoritism by careful statistical investigations of the results of assessments. This problem of undue influence in assessment is a practical one which every system must meet, and one which cannot be overlooked by the historian or the theorist. A system may be theoretically correct, and provision made for a well-ordered administration; yet if it is not constructed in the light of the probable influence of the powers that be, it will not be effective.

We believe that the Board system as now operated in many of the states is open to just this criticism.

# 3. The Experience of Other States.

Not only in Missouri and Iowa does the State Board system break down its administration, but sooner or later wherever it is adopted. Pressure from the outside, sometimes from the railways, sometimes from the people, governs the appraisal. In some states it is the purpose to demand all the railway will or can pay; in others it is the policy of the board to assess the railways as low as possible, without bringing down an avalanche of agitation.

The Michigan Tax Commission, after making an extended investigation of taxation of railways in this country, reports that "Three-fourths of all the states value railroads, telegraphs, telephone, and express companies by some state board." A brief reference to the abstract of methods and results printed in this report will convince that a wide diversity is shown in the matter of opinion



John Herriott: Taxation of Railways in Iowa, p. 6.

and judgment, if the cause of such diversity deserves so charitable an expression.

"It has come to be a very common practice in many other states, if reports be true, to appoint on such boards men who are satisfactory to the great corporations who contribute to the campaign expenses and control political conventions. A man who does not receive such indorsement is not considered for appointment to administrative office over their affairs. Ability, integrity and merit do not count without such indorsement. It has become an iron-clad fact, not only in other states, but in Michigan as well, that farmers, merchants, men of other industries. and laborers, will accept such administration of government as comes to them with little or no organized complaint. They are not associated along the special line of their interests, while the great corporations, fewer in numbers, and more powerful in resources, are always on hand, often ready to protect and defend their just interests and frequently to gather fruit from other trees than their own by indirect methods.

"It is but nonsense to talk of placing the valuation of these immense properties worth hundreds of millions, in the hands of men, for valuation, with whom it would be a physical impossibility to make even an approximate valuation. If railroad and other like corporations are to be assessed upon valuations, only men capable of doing this work by training and experience can find even approximate values, and this should be done so openly that not the faintest suspicion may attach to the assessing board or to the corporations themselves. Any private office valuation would lead to grave charges. . . . It may be said that after a careful study and examination of the plans and methods pursued in all these states and the results accomplished, that no one of them seemed to

offer a fair or satisfactory solution of the problem before the commission." 8

When Michigan abandoned the tax on gross earnings for a tax ad valorem, the assessment being made by a state board, it was interesting to note how soon the private office valuation came into existence. board, a member of the former tax commission, quoted abeove, when asked how valuation was determined, said, "When it comes to a question of the ultimate valuation of railways, each member of the board has his own opinion." 9 An investigation of Michigan procedure shows "an aggregate and final valuation simply placed upon each railroad system by a method which, however conscientious on the part of the assessors, neither the railway nor the public is permitted to discover." The board frankly admits that "were they to reveal the grounds of their valuation, they would simply invite endless criticism and objection on the part of the railways and other corporations which they are required by law to assess." 10

The Ontario Commission, in their tour of investigation, made a thorough study of the actual operations of the ad valorem system, and found conditions similar to those in Michigan existing in all the states studied.

In determining the value of a road under the State Board system no more account is taken of the cost of construction than in the case of the gross earnings system. In Indiana the Tax Commissioner, "in reply to the question as to how two roads would be assessed, doing an equal business and having an equal income, but one having cost twice as much to build as the other," said, "If the earnings are just the same and each road is of the

<sup>&</sup>lt;sup>a</sup> Michigan Tax Commission Report, 1900, pp. 63, 67.

Ontario Commission Report, p. 47.

<sup>&</sup>lt;sup>16</sup> Ontario Commission Report, p. 48.

same value after it is built, it is not a question with us what it cost to build." 11

From the standpoint of administration the problems connected with the *ad valorem* system are more complex and more insidious than those that are met in the gross earnings system.

#### III. THE RESULTS OF THE SYSTEM.

In the light of these indefinite and indeterminate methods amounting to lack of method in estimating value, it is not surprising to find in the results of the appraisal a lack of uniformity, or conformation to any standard. The first result is the unequal distribution of burden among the railways. Where the personal judgment of the appraiser, or the pressure of political conditions enters in, this is found; in fact, it appears to more or less extent in all states where the system is followed, and is so generally known that only a few typical instances will be cited.<sup>12</sup>

From information laid before the state board of Missouri by one of its members, the inequalities in assessment are made evident. In 1897 the assessed value of eleven of the most important railways in Missouri was \$60,310,262.15. The market value of that portion of

<sup>&</sup>lt;sup>11</sup> Quoted by Ontario Tax Commission Report, p. 61.

<sup>&</sup>lt;sup>19</sup> For investigations showing inequalities among roads, see Mc-Crea: Taxation of Transportation Companies, p. 1018 et seq.

E. W. Bemis: True Value of Ohio Railways.

State Treasurer John Herriott: Speeches and Pamphlets on Taxation of Railways in Iowa, 1900.

Attorney-General Crow: Resolutions offered to the State Board of Equalization and Assessment of Missouri.

Report of the Ontario Commission on Railway Taxation.

Ohio Tax Commission, 1893, p. 58.

Arguments of railway officials before the boards appear in daily papers also, at the time of the public hearings.

these roads to be found in Missouri, as determined by the market price of their securities was \$157,497,811; as determined by the capitalization of their net earnings it was \$157,547,721.49. Taking the lowest valuation in the case of each road and making allowance for local taxation, the per cent. of market value or net earnings value to assessed value ranged from 27.80% to 70.99%.<sup>13</sup>

Of Iowa, where a system similar to that in Missouri is followed, the State Treasurer, speaking in 1904, says, "The streets of your city (Marshalltown) are crossed by four trunk lines. Take their assessments first as measured by their gross earnings taken for taxation. C. and N. W. this year pays \$2.40 on every \$100 received, the C. M. and Sa. P. \$2.50, the C. G. W. \$2.60, and the Iowa Central \$2.90. On the basis of net earnings the incongruities are just as marked. The council requires the C. and N. W. to pay \$7.60 out of every \$100 earned net, the C. M. and St. P. \$8.00, the Iowa Central \$7.70, and the C. G. W. \$12.90 of its net income. When it is considered that the total earnings of our great railway systems in the state get up into the millions, the pecuniary advantages to the ones most favored aggregate enormous sums. The case is no more satisfactory if we measure the railroads on the basis of their stocks and bonds. the day on which the roads were assessed in 1900 the common stock of the Northwestern sold at 163 in New York, and that of the Great Western at only \$13 and seven-eighths, yet the latter was assessed at \$4.760 per mile and the former at only \$6.049. When the smaller and weaker railways are examined, the difference is more striking. For example, for \$100 of gross earnings, the Marshalltown and Dakota was assessed at \$315, the

<sup>&</sup>lt;sup>20</sup> Compiled by Attorney-General Crow. Report of the Missouri Board of Equalization and Assessment. 1898.

Crooked Creek on \$233, and the Muscatine North and South on \$211, while of the trunk lines, the Rock Island, for every \$100 of gross earnings was assessed at \$108, the C. M. and St. P. at \$80, and the Northwestern at \$72.14

"Very serious are the unjust inequalities in the tax burden borne by Iowa railroads on account of the lack of system or definite and impartial procedure on the part of the executive council in assessing railroad property for taxation. The inequalities have existed for years. The weakest and smallest roads are assessed at excessively high rates compared with the trunk lines, and the strongest and richest railway system of the state is assessed at the lowest rate. There is no sense, no system, no justice in the assessments of railways in Iowa." 16

These inequalities, far from being the exceptions, are the factors which make the rule of valuation. This rule is not an economic standard of valuation. Such a standard is lacking in most states where the ad valorem system is in vogue. Furthermore, this lack of a standard of valuation appears not only when individual roads are considered, but also when all roads within a state are considered as one system, as may be seen by comparison with other valuations.

The most thoroughly wrought out comparison of assessed value is found in the work of the United States Census Bureau, where income from operation is used as the basis of the commercial valuation.<sup>16</sup>

In those states where the assessment of railways is made by a state board the assessed value falls far below the commercial value as determined by the Census Bureau. In Missouri it is only 31.6 %, in Iowa 16.7 %,

<sup>&</sup>lt;sup>14</sup> See Herriott: Taxation of Railroads in Iowa.

<sup>&</sup>quot; Ibid, p. 5.

<sup>&</sup>quot;See supra, p. 72.

in Kansas 16.9%, in Ohio 19.4% of the commercial value. Where the ad valorem system has been recently adopted under popular pressure for heavier taxation of railways, the ratio of assessed to commercial value is considerably higher; in Wisconsin, for example, it is 76.6% and in Michigan 70.9%.<sup>17</sup>

In the latter state we also find a high ratio between the assessed and other valuations. In 1903 the assessed value of all the railways in the state was \$198.000, or 98% of the valuation made by Professors Adams and Cooley in 1902. It was greater than the valuation made by Tax Commissioner Oakman, who arrived at his conclusion by capitalizing net earnings. 18

It may be said that while on the one hand, it is possible to apply the ad valorem method so that the assessed value will approach market value, as has been done in Michigan, on the other hand, in those states where the system has been in operation for a decade or more, the railways are not and never have been assessed at a figure which approaches market value. Knowing the methods by which assessed value is determined, we may conclude that the variations in so many instances from other standards of value seem to indicate that assessed value can not be accepted as a criterion of value 19 by which to measure the effectiveness and equity of a tax on gross earnings, as assessed value is a more uncertain quantity than gross earnings.

Moreover, the inequalities in the ad valorem system

<sup>\*\*</sup> Commercial Valuation of Railways, p. 14.

<sup>&</sup>lt;sup>18</sup> Statistics from Report of Michigan Tax Commission, 1900.

<sup>&</sup>quot;This conclusion is further sustained by an examination of the variations in assessed value of individual roads operating through contiguous territory. Typical conditons are illustrated by those pointed out by Professor Edward Bemis in "The True Value of Railways in Ohio."

are especially insidious and dangerous.<sup>20</sup> They are not due to some circumstance within the industry, as in the gross earnings tax, but are forced from the outside and to a great extent are due to political causes.

For example, the State Treasurer of Iowa points out that "The officials of our State favor certain railroads in assessment for taxation. Other roads compared with them are overtaxed in consequence. The first and natural result of such favoritism is to invite railroads to 'take a hand' in politics to obtain favors. The strongest political roads gain them, of course. . . . This forces all competing lines to take part in politics to protect themselves. A few years since, the Milwaukee system was regularly overtaxed, compared with other trunk lines. Now it is not. It has become powerful in politics. Several railroads might be mentioned that have been forced, contrary to the desire of their management, to enter into politics because of the pernicious activity and power of some trunk lines." Herriott: Taxation of Railways in Iowa. 1900.

### CHAPTER VII.

#### FISCAL CONSIDERATIONS: EQUITY.

It is difficult and not altogether profitable to consider certain phases of a tax law apart from the system in which they have developed. Such questions as the relative amount of revenue produced by different taxes, and the relative amount of burden borne by different classes of property are to a more or less extent so modified by local conditions that a comparative study has many limitations. As these, however, are questions which may not be ignored in considering a fiscal measure, the more important phases of these problems connected with a tax on gross earnings will be pointed out.

A vital question in regard to every fiscal measure is whether it is a good revenue producer. In Wisconsin the tax on the gross receipts of railways furnished, from 1889 to 1901, 38 % of the total state revenue. In 1889 it was the source of 37.3 % of the whole, and in 1901 of 37.8 %.<sup>1</sup> During this period the railways were not sub-

It is impossible to say what amount of revenue would have been produced if a different method of taxing railways had been employed; but if a comparison is made of the average tax per mile where the railways operated in Wisconsin are subject to a tax ad valorem in neighboring states, the results are favorable to the gross earnings system.<sup>2</sup> Too much reliance should not be placed on

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<sup>&</sup>lt;sup>1</sup>Report of Wisconsin Tax Commission, 1903, pp. 214, 328. ject to local taxation.

#### TABLE NO. IX.3

# Ad Valorem and Gross Earnings.

TAX PER MILE ON INDIVIDUAL RAILWAYS IN SEVERAL STATES.

Average Tax per Mile.

| Road       | Year       | Tax Ad | Valorem |      | Tax of       | n Gross Ea  | rnings |
|------------|------------|--------|---------|------|--------------|-------------|--------|
|            |            | III.   | Mo.     | Neb. | Ia.          | Minn.       | W18.   |
| C., B. & ( | Q—1904     | 351    | 183     | 206  | 227          | 500         | 387    |
|            | 1903       | 328    | 191     | 191  | 194          | 524         | 346    |
|            | 1902       | 337    | 158     | 189  | 180          | 367         | 275    |
|            | 1901       | . 363  | 141     | 186  | 1 <i>7</i> 6 | 294         | 246    |
| C., M. & S | st. P-1904 | 352    | 237     |      | 193          | <b>24</b> I | 354    |
|            | 1903       | 385    | 208     |      | 149          | 248         | 339    |
|            | 1902       | 428    | 179     |      | 148          | 214         | 311    |
|            | 1901       | 421    | 140     |      | 146          | 219         | 316    |
| C. & N. W  | V—1904     | 460    |         | 184  | 250          | 550         | 348    |
|            | 1903       | 453    |         | 151  | 209          | 163         | 337    |
|            | 1902       | 400    |         | 128  | 179          | 124         | 321    |
|            | 1901       | 505    |         |      | 176          | 122         | 320    |

such comparisons, on account of the differences in the tax systems employed in the several states.

As compared with the ad valorem tax law system recently adopted in both Wisconsin and Michigan, the tax on gross earnings at the rates of the old laws is not so productive. The fault, however, was not in the system but in the rates, which could have been so adjusted as to give an equal amount of revenue. We have seen that where the ad valorem system has been in force for a number of years its increased productiveness was due, not to economic but to political causes. On the other hand, while the gross receipts system has periodically responded to popular pressure for an increase in rates, it has also automatically adjusted itself to increase in ability.8 As

This automatic adjustment gave rise to some arguments against the system on the ground that the fluctuations in gross earnings made a heavier rate on other property necessary. These are not of great weight, for in Wisconsin only once during the past fifteen years have the receipts from railway taxes been over \$100,000 less than the receipts of previous years. At three times a smaller decrease has occurred, but with total State receipts of over \$4,000,000 such fluctuations are of little moment. Wisconsin Tax Commission Report, 1903, p. 215.

a revenue producer, therefore, the gross earnings system per se is efficient.

The question of the comparative burden borne by different classes of property is the maelstrom of tax reform agitation. The most fundamental and popular theory connected with our general property tax systems is the doctrine of equality. Inequality is the starting point and equality the goal of these agitations. Especially is this true of movements for an increase in the amount of taxes paid by railways. For example, the late Governor Pingree made his political fight in Michigan with "equal taxtion" as his motto, and Governor La Follette in Wisconsin made it the chief plank in his platform. In both states this demand for equality led to the abandonment of the tax on gross earnings.

The first results of these agitations were painstaking and thorough attempts to ascertain the workings of the existing tax system. In Michigan it resulted in the most thorough appraisal of railway property ever made in this country; in Wisconsin, in a thorough attempe to appraise the general property of the state. These important results will be studied in more detail.

#### I. THE APPRAISAL OF THE RAILWAYS IN MICHIGAN.

The appraisal of the value of the physical properties of the railways in Michigan was made under the direction of Mortimer E. Cooley, Professor of Mechanical Engineering at the University of Michigan. Only a superficial description of the engineering work can be given in this place. Professor Cooley divided his force of about seventy-five engineers into office and field men, and the work into civil and mechanical engineering. The office men prepared from the records in the railway offices, facts relating to surveys, right of way and station

grounds, real estate, grading, tunnels, bridges, trestles, and culverts, rails, fencing, station buildings and fixtures, shops, roundhouses and turntables, water and fuel stations, grain elevators, warehouses, docks and wharves, and miscellaneous structures. This information was placed in the hands of field engineers who proceeded either on foot or by hand car to verify or correct every item. The data thus verified corresponded to those which would have been obtained by actual surveys.

In computing the cost, the office force used a set of carefully wrought-out tables which showed the price of different elements entering into cost of construction. In compiling the accounts, the "classification of construction accounts" prescribed by the Inter-State Commerce Commission was followed.

In estimating the value of the right of way, station grounds and real estate, the question arose whether the railways should be charged for what the right of way actually cost—it having been ascertained that they paid from 100 to 125 % higher than the value of adjacent property—or for what it was worth for other purposes before it was purchased. "The conclusion finally reached was to add to the value of the right of way as determined by contiguous property an amount fairly representing the actual cost to the railroad."

"Under the head of mechanical engineering a careful inventory and inspection was made of all shop machinery and tools, locomotives, passenger and freight, and miscellaneous equipment and of stores and supplies. The work was thoroughly done and included practically every locomotive and passenger car belonging to Michigan roads."

In order that there might be no question of the suitability of the method employed, a Board of Review composed of prominent engineers was appointed. Their

advice was especially sought on such questions as the percentage to be added for items of engineering, legal expenses, interest and discount, organization and contingencies.

To complement the appraisal of the physical properties, Professor Henry Carter Adams made an estimate of the value of the railways, based upon net earnings. The chief elements in the railway industry which made it necessary to thus supplement the appraisal value (Professor Adams' analysis) are substantially as follows:

1st. The formal value of a franchise, that is, the right

to be and act as a corporation.

2nd. The possession of traffic not subject to competition which permits a return above a just and reasonable rate (the margin of surplus earnings thus rendered possible becomes the basis of a surplus value, that is, a value in excess of the inventory value of physical elements).

3rd. The possession of traffic held by established connections, amalgamations and consolidations, and not

subject to competition.

4th. The benefit of economies made possible by the increased density of traffic. That is, the growth of population, and the consequent increase of traffic, which results from the growth force a value into the treasuries of the railway corporations which cannot be credited to the superior ability of those by whom railways are administered. Were this business exposed to the influence of competition, the value in question would be dissipated to the public through a reduction in the price of service. For many reasons, however, this is not possible in the case of the business of transportation and the value resulting from economies rendered possible by the increase in traffic comes into the possession of the corporations rendering the service.

5th. The intangible value of a railway corporation includes a value arising on account of the organization and vitality of the industry which renders the service.



In commenting on his work, Professor Adams said: "The theory upon which the computation of intangible value rests is that all property assigned to a productive purpose secures its value from the fact that it is the source of current income." To determine the unmaterial values of railway properties Professor Adams laid down the following rules:

- "I. Begin with gross earnings from operation, deduct therefrom the aggregate of operating expenses, and the remainder may be termed the 'income from operation.' To this should be added 'income of corporate investments,' giving a sum which may be termed 'total income,' and which represents the amount at the disposal of the corporation for the support of its capital and for the determination of its annual surplus.
- 2. Deduct from the above amount—that is to say, 'total income'—as an annuity properly chargeable to capital, a certain per cent. on the appraised value of the physical properties.
- 3. From this should be deducted rents paid for the lease of property operated and permanent improvements charged directly to income. The remainder would represent the surplus from the gross earnings from the year's operations, and for the purpose of this investigation may be accepted as an annuity which, capitalized at a certain rate of interest, gives the true value of immaterial properties.
- 7. To obviate the criticism that both gross and net earnings vary from year to year, it is suggested that, in place of a single year's income account, a period of ten years be accepted as the basis of computation.
- 8. It will be observed that the above fails to appraise the speculative element in railway property."

The Cooley-Adams appraisals estimated the value of the railways at \$202,716,262. The average rate of the general property tax, levied on this value, produced an amount almost double that of the taxes paid under the gross earnings system. The result was an increased demand that railways be taxed according to their value. In compliance with this demand, the ad valorem method was substituted for the tax on gross earnings.

II. THE APPRAISAL OF PROPERTY IN WISCONSIN.

In Wisconsin a similar movement for "equality" resulted in several thorough investigations of the tax system, with a view to ascertaining the relative burden borne by the different classes of property.

The most thorough investigation was made by a tax commission consisting of a tax commissioner and two assistants appointed by the governor, with the consent of the senate, for a term of ten years. The commission was not limited in expenditure, and had ample powers to secure whatever information it desired from individuals, from corporations, and from officials, both state and local. At the same time that the tax commission was pursuing its work, two independent investigations were being carried on, one by the governor, and the other by the railway authorities. The results of these inquiries came before the legislature during the session of 1900-1901.

1. Value of the Railways. To determine the relative burden borne by railway and other property, it was necessary to determine the true value (as contradistinguished from merely assessed value) of all taxable property in the state and to ascertain the rate paid on each class of property. In the investigations made to establish the true value of the taxable property in the state, property was divided into three classes: railway, real and personal property.<sup>5</sup>

For the purpose of determining the value of railways, the commission divided them into two classes. The first

<sup>&</sup>lt;sup>4</sup> The first commission, without power, was appointed in 1897; the second, with power, in 1898-9.

<sup>\*</sup>That this classification as carried out was not all inclusive will be pointed out later.

class included those railways whose securities were quoted on the market. For these, the commission accepted the market price of the stocks and bonds as indicative of the true value of the property, including franchises. took the market prices of the stocks and bonds of all railways operating within the state whose securities were quoted, using the highest and lowest in each month, as quoted on exchanges, for periods of one, three, and five vears. The fourteen railways which were valued by this method had a mileage of 5885.79; their cost as reported by the companies was \$233,682,366.91 (this includes road and equipments); the par value of stocks and bonds was \$246,972,968; the gross earnings for 1900, \$40,539,-014; the net earnings, \$15,289,200; the taxes paid, \$1,-537.070.47.6 The average value as found by the commission for one year, 1899, was \$249,151,149; and the average value for five years was \$215,277,187.7

For the second class of roads, consisting of those whose securities were not quoted on the market, the value was found by capitalizing the net earnings at six per cent. They had a mileage of 629 miles; gross earnings amounting to \$784,381; net earnings amounting to \$194,330; and paid as taxes \$10,147.77.8 Their average value for five years was found to be \$2,718,531.7

The average value for five years of railways of both classes, as given by the commission, was \$217,995,718,7 or 18.95 per cent. of the gross earnings for the year 1900. The taxes paid in 1900 were \$1,547,222.18, or 7.09 mills on the dollar of the above valuation. General property in 1899 paid 11.545 mills on the dollar.9

<sup>&</sup>lt;sup>6</sup> Report of 1901, p. 97. Owing to criticism, the number of railways thus valued was reduced to eight in 1903.

<sup>&</sup>lt;sup>7</sup> Ibid, p. 106.

<sup>\*</sup> Ibid, p. 100.

<sup>\*</sup> Ibid, p. 107.

In 1902, after a more careful research, the commission reports an average value for five years of \$231,011,385.

After having established a value for the railways, based upon the value of their stocks and bonds, the commission found an average yearly income from operation, during a period of five years, to be \$15,146,031.77. This they capitalized at 6 per cent., securing a valuation of \$252,-433,861.

Having found the rate of taxation throughout the state (based on the valuation of general property plus railway property divided by the total taxes plus the license fee), the commissioners applied it to the appraised average valuation of railways during the period from 1895 to 1901, and found that the average yearly tax would have been \$2,652,590.62. The largest sum derived from the railway license fees for one year during the same period was \$1,711,900.18.

The valuation of the railway property was ascertained principally by means of the market values of the stocks and bonds. The conclusions of the tax commission depend upon the validity of their estimates. These were attacked by the railway representatives. It was pointed out that the Chicago, Madison and Northern Railroad Company was included by the commission among roads whose value was ascertained from the market quotations of their securities, whereas no stocks or bonds of the C., M. & N. R. R. Company had been in the market during the five years included in the estimate. It was brought out that the securities of the Chicago, Madison and Northern Railroad Company were pledged to secure bonds of

<sup>&</sup>lt;sup>16</sup> See affidavit of Mr. J. C. Welling, Vice-President of C., M. & N. R. Co. in "Railway Taxation in Wisconsin." Judge J. M. Dickenson's (General Solicitor of Illinois Central Railroad Company) argument before the joint committee of the Wisconsin Legislature, March 5th, 1901.

the Illinois Central Railroad Company, and that to determine the value of the Chicago, Madison and Northern Company, the tax commission had applied the "market value of the Illinois Central" to the securities of the Chicago, Madison and Northern Railroad. On this point the representatives of the Chicago, Madison and Northern Railroad Company said: "The Chicago, Madison and Northern Railroad is a small road valued in the fifth class of Wisconsin roads. The Illinois Central Railroad Company is a large corporation having established credit in both America and Europe. It is fantastic to assert that the value of its stocks and bonds are in any way exponents of the value of the railroad of the Chicago, Madison and Northern Railroad Company." 11 Attention was also called to the fact that the commission estimated the value of the roads in the second class from the net earnings. which were \$194,330, but disregarded the deficit from operation, which was \$192,975.35, for the same class.12 The chief objection of the railway attorneys was against using the market value of the securities as the sole basis of valuation of the railways.18

<sup>&</sup>lt;sup>11</sup> See Dickenson, p. 25.

<sup>&</sup>lt;sup>15</sup> The tax commission say that the interest on the bonds was included in operating expenses of some of the roads, and that the deficit, as such, was not reliable.

<sup>&</sup>lt;sup>28</sup> These objections are well summed up by Judge J. M. Dickenson (General Solicitor of the Illinois Central) who says:

<sup>&</sup>quot;Weight should be given to the market value of the stocks and bonds. But in ascertaining the market value of the stock and bonds it should be borne in mind that—

The value of such securities includes and covers property of the company, which cannot be taxed in Wisconsin;

That quotations, ordinarily called 'Market' reports, may not be so much the result of the careful investments of farsighted men as of the manipulations of speculators on margins;

That these quotations are often forced by stock exchange practices:

That management, good will and business standing are all cov-

The representatives of the railways did not place a valuation on the railway property in the state. There were, however, two other estimates, one which fixed a value by means of capitalized earnings, the other by the market value of stocks and bonds. At Governor La Follette's request, the State Commissioner of Statistics estimated the assessed value of railways at \$51,390,269, by capitalizing the taxes paid, at the average rate applied to other property. The market value, \$256,303,310, he found by the stocks and bonds method.<sup>14</sup> The per cent. of assessed value to market value was, according to the above figures, 20.05 per cent. The investigations carried out by the tax commission and by the governor would seem to indicate that railways were paying taxes on less than 20 per cent. of market value, or between 5.2 and 7.00 mills 15 on the dollar of "true cash value."

2. Value of Real Property. It is generally acknowledged in Wisconsin that real and personal property are not assessed at their market value. In order to ascertain the relation between the assessed and market values of real and personal property, the governor, the tax commission and representatives of certain railways made in-

ered by share stock values, and an assessment based on such values taxes property to corporations which is not taxed to natural persons at all;

That hope of the future is an element which inflates the market value of stocks and bonds above the true value of the property.

That the power of 'control' or the possession of the majority stock, gives a 'market' value to a portion of the shares beyond the real value of a like proportion of the property;

That where a railroad originated under a separate charter, but is now a link in an interstate railroad system, its bonds and stocks may have a high value, solely because the consolidated company stands as a guarantor of interest and dividends." Dickenson, pp. 40-43.

<sup>&</sup>lt;sup>26</sup> Governor La Follette: Inaugural Message, 1901, p. 14.

<sup>\*5.2</sup> according to Governor's valuation; 7.09 according to Tax Commissioner's valuation.

vestigations. It was necessary to establish a percentage relation between assessed and market value of taxable property before a comparison of the relative amount of taxes borne by different classes of property could be made. Therefore, the governor, or rather the State Statistician under the direction of the governor, compiled a table, which is given below, showing the assessed and the market values of railway, real and personal property.<sup>16</sup>

TABLE NO. X.

GOVERNOR LA FOLLETTE'S VALUATION.

| Classification of property. | Assessed value. | Market<br>value<br>1890 | Percentage of assessed to market value. | Taxes paid.  | Per cent of market value paid as tax. |
|-----------------------------|-----------------|-------------------------|-----------------------------------------|--------------|---------------------------------------|
| Real property               | \$519,713,082   | \$1,138,377,000         | .44.90                                  | \$13,730,820 | 1.19                                  |
| Personal "                  | 111,008,415     | 862,500,000             | 12.90                                   | 2,932,842    | .34                                   |
| Railway "                   | 51,390,269      | 256,393,310             | 20.05                                   | 1,357,731    | -53                                   |
| Total                       | \$682,111,766   | \$2,257,770,610         | 29.80                                   | \$18,021,393 | .80                                   |

To ascertain the market value of real property in the State, all recorded sales of real property, between September, 1891, and September, 1899, were compared with the assessed value of the same property and the percentage relation found. This percentage was applied to all real property, and the result was taken as the market value of real property. For the purpose of testing the facts found by this method, two other investigations were made. One of these consisted in personal inquiries as to the value and assessment of representative farms in sixteen counties, and of business and residence property in thirteen cities. The other was an effort to obtain through correspondence information on a large scale regarding all assessable property. Both proved satisfactory, and practically the same results were obtained as under the first method.

The results of the investigation made by the governor,

as given in Table No. X, show that the market value of the real property of the state was \$1,138,377,000, and the assessed value \$519,713,082, or 49.9 per cent. of market value. The taxes paid on the real property were \$13,730,820, or one and nineteen-hundredths per cent. of market value, while railways paid \$1,357,731 on a market value of \$256,393,310, or only fifty-three-hundredths of one per cent. of market value. Real property paid on each dollar of market value over twice as much as did railway property.

The report of the tax commission differs little from the report of the governor.<sup>17</sup> The commission ascertained the sales of real property for five years and the assessed value for the same period, and from this computed the ratio of assessed value to selling price. process was carried out for the 1300 assessment districts. and the ratio computed on a basis of five years' sales and assessments, during which time they ascertained 82,519 bona fide sales of acres of property, and 40,607 bona fide sales of city and village lots. The total actual value of real estate in the state as found by the above method was \$1,192,867,499. The total average assessed valuation compiled from reports of the Secretary of State, was \$518,824,553, and from these two sums the commission found the average assessed value to be 43.4 per cent. of the aggregate market value. These results were verified by the answers of local officials and farmers to the inquiries made by the commission concerning the ratio of assessed to market value. The governor's results differed very little from the results found by the tax commissions, as he had estimated the per cent. of assessed valuation to market value at 44.9. The method was certainly a very scientific and thorough one, and the results can be relied

<sup>&</sup>lt;sup>17</sup> Report, 1901, p. 44 et seq.

upon. It would seem, then, that from 43.4 per cent. to 44.9 per cent., the tax commission's and the governor's estimates respectively, may be taken as approximating the true relation between assessed valuation and market value of real property in Wisconsin.

The Chicago and North Western Railway Company and the Chicago, Milwaukee and St. Paul Railway Company co-operated in conducting an investigation of the rate of assessed to real value of all property (except railways) in Wisconsin.

"Twenty-two different counties in the State were selected, which in the aggregate are believed to represent all the varying peculiarities of the property, industry and business of the state. . . . Expert real estate men canvassed each town in these several counties. A large number of pieces of property, including descriptions of improved and unimproved lands, and town and city property, were considered." 18

The results of the railway officials' investigation show that real property was assessed at 35.7 per cent. of its market value.<sup>19</sup>

The results of the governor's inquiries confirmed his calculation that real property was assessed at 44.9 per cent. of market value. Twenty-two hundred and twenty town and county officials, replying to the tax commissioner's inquiries as to the ratio of assessed to market value, gave an average of 45.9 per cent., and the replies of 1667 farmers gave an average of 48 per cent. The inquiries of the tax commission, the governor, and the railway officials may be put into the same category, but the results found by both the tax commission and the

<sup>&</sup>lt;sup>28</sup> Printed argument submitted to Wisconsin Tax Commissioner by, Mr. E. P. Crandon, Tax Commissioner of C. & N. W., p. 12.

<sup>&</sup>lt;sup>18</sup> The data collected by the Tax Commission showed a five-year-average ratio of assessed to true value of real estate in the same-counties to be 38 per cent. Report, 1900, p. 62.

governor on the more scientific method of comparison of sales and assessed value were not refuted by the railway officials and can be accepted as approximating the truth.

Having the relation of assessed to market value of both railway and real property and the taxes paid, a comparison of the relative burden may be made. If the tax commission's valuation by the stock and bond method be accepted, the railways were paying taxes on 18.95 per cent. of their assessed value; or, according to the governor's figures, on 20.05 per cent.; while real property, according to the tax commissioner, was paying on 43.4 per cent. of market value; according to the governor on 44.9; and according to the railway officials, on 35.7 per cent. of market value.

3. Personal Property. The valuation of personal property was a much more difficult task than the valuation of real property. The intangible nature alone of a great part of personal property made it impossible to arrive at sound conclusions as to the relation between the assessed and market value. Nevertheless the conclusions reached played an important part in the discussions before the legislature in 1900-1901. Governor La Follette says that his statistics for personal property were obtained by the following means:

"A circular letter requesting information concerning the per cent. relation which the assessed value of the different kinds of personal property bore to the market value was directed to the assessors, town, village, city and county officials, and besides these to such other persons in the different parts of the State as we had reason to believe were familiar with tax matters. About one-half, or nearly 4500, of these inquiries were answered. These answers were carefully examined, compared and compiled. The facts obtained from them before accepted or used were also fully considered, not only in connection with the probable increase in property since 1890, but in

every other connection that was thought to have some bearing upon their accuracy. The true value of intangible personal property or mortgages, notes, stocks, bonds, etc., for 1899 was placed at \$275,000,000." <sup>20</sup>

By this method the market value of personal property tangible and intangible was estimated as being \$862,500,000; the assessed value, \$111,008,415, or 12.0 per cent. of market value. The taxes on personal property paid as taxes thirty-four one-hundredths of one per cent. on each dollar of market value; real property paid one and nine-teen one-hundredths per cent. on market value; and rail-way property paid fifty-three one-hundredths of one per cent. on market value.

The tax commission's investigation of the personal property in the state was no more satisfactory than was that of the governor. The tax commission, however, did realize the futility of attempting to find the amount of personal property in the state, and limited their investigation to ascertaining the market value of the assessed personal property. This they only estimated by applying to personal property the ratio of assessed to market value as found for real property.<sup>21</sup>

The railway counsel vigorously objected to the results found by the above method. They claimed that it was generally acknowledged that the value of personal property in the state was equal to the value of real property; and that the method followed by the tax commission ignored the greater part of personal property, namely that which escaped assessment, and that it therefore could lead only to erroneous results.

Judge Gilson of the commission argued in reply to the claim that personal property in a large degree escapes taxation:

<sup>&</sup>quot;Inaugural Message, 1901, p. 14.

<sup>&</sup>lt;sup>21</sup> Report, 1901, p. 65.

"That there was a great question whether it should be assessed at all. Personal property consisted of stocks, bonds, notes, mortgages, and credits, and of this class of holdings the railroads had some \$250,000,000, and if they wanted that assessed they would bring upon themselves double taxation. As for taxing mortgages, notes and bank deposits, the judge said, experience had shown that neither the public nor the money lenders would accept a system that tended to cut in upon the rate of interest. But personal property or no personal property, so long as tangible holdings were taxed, then all visible property should be equitably assessed." <sup>22</sup>

Mr. F. E. Crandon (tax commissioner of the Chicago and North Western Railway), in commenting on the estimation of the value of personal property in the state, said:

"It was found to be much more difficult to procure information concerning personal property values, than those of real estate. In the farming communities only a portion of the personal property was assessed at all. Much of the live stock, nearly all of the farming utensils except wagons, generally such farm products as remained on hand, and other forms of personal property were omitted from the rolls entirely. In towns and cities the personal property assessment is farcical. The values placed upon the merchandise, manufacturers' materials, and products, moneys, credits, securities of all kinds and other personal property items are ridiculously low when they are listed at all, and for the most part no attempt is made to find or assess such property." 28

Counsel for the railways claimed that railways were bearing a greater burden than intangible personal property, and therefore there should be an equalization of burden before the rate on railway property was raised.

In arguing on the above point the railway representatives used the statistics given by the governor. These

<sup>\*\*</sup> Report of Judge Gilson's speech before joint committee, Madison Democrat, March 8th, 1901.

<sup>&</sup>lt;sup>22</sup> Crandon: Railway Taxation in Wisconsin, pp. 13, 14.

statistics would not, however, justify the conclusion that railway taxes should not be increased. They show that though railway property was assessed at 20.05 per cent. of the market value, real and personal property together were assessed at an average rate of 28.9 per cent. Even assuming the low estimate on personalty, the burden borne by the railway property was relatively less than that borne by other property. The railway officials estimated that the assessed value of personal property was about 10 per cent. of the market value. These estimates can be placed in the same category as those of the governor, though not given as much weight for the method used in arriving at their conclusions. Both the governor's and the railway statistics in regard to personal property are little better than guesses, and guesses, as Mr. Crandon said, are not very reliable, "however expert the guesser may be."

4. Corporate Property. It should be pointed out that there was one source of revenue which was ignored by the governor and the railway officials in their discussions on the equalization of taxation, and which was barely mentioned by the tax commission.<sup>24</sup> This source consists of various corporate properties and franchises which are subject to taxation by the state.

In Wisconsin, besides the general property tax, there has grown up to meet modern industrial conditions a species of franchise taxes called the "license fee system." By means of this system the state secures revenue from street railways; electric light and power plants operated in connection with street railways; telegraph and telephone systems; plank and toll roads; boom and dam com-

<sup>\*</sup>Report, 1901, p. 64. The Tax Commission says that the personal property of corporations taxed under the license fee law should be considered but not included when arriving at the value of personal property in the State.

panies; foreign and domestic life, fire, and navigation insurance companies; title guarantee, trust and annuity companies. Besides the "license fee system," there are special ad valorem taxes, upon sleeping cars, freight line and equipment companies. The property taxed by means of the "license fee system" forms no small portion of the property in the state, and it should have received due attention in the several investigations when the comparative burden of taxes was being considered.

After making allowance for errors in the appraised value of the property in the state, there still remained a difference between the burdens borne by real estate and by railway property, great enough to convince the people that the railways were not paying taxes at the same rate as other property. This led to the abandonment of the "license fee" system in 1903, and brought the railways under the general property tax system.

# III. EQUALITY VERSUS SOCIAL UTILITY.

While it was undoubtedly true that the railways could bear a greater proportion of the burden of taxation in both Michigan and Wisconsin the grounds upon which the tax on gross receipts was abandoned for the ad valorem tax law were fallacious. The tax on gross earnings was abandoned in Wisconsin at the instance of the tax commissioners, who argued that "the property of the railroad companies should be valued by a state board which should also be empowered to value the property of the state for the levy of the state tax, and be required to assess the general property of the state at the market value." <sup>25</sup>

Their idea was to bring railway property under the general property tax system and thus secure "equality," the theory of the general property tax system being that justice in taxation is secured by the equal distribution of

<sup>\*</sup> Report of Wisconsin Tax Commission, 1902, p. 182.

burden among the persons in a country, acording to the amount of their property. The system consists in "listing all property according to its value, and the taxation of the proprietor on the basis of that value." <sup>26</sup> It assumes that equality of burden and ability to pay are measured by the market value of the property owned.

The central idea of the system is to discover the market value of all the property in the state, and to assess it according to that value. If there was one thing which the thorough investigations in Wisconsin showed, it was the impossibility of appraising all the property within the state.

The omission of such a considerable portion of the property of the state as the quasi serious objections to the methods used by the tax commission in valuing rail-way property disclosed; the differences in the valuation of the real property; and the absence of sufficient data in the case of personal property, would point to the futility of an attempt to determine the relative burden of taxation borne by the different classes of property in the state by a comparison of the relative rates paid on market value.

A glance at the workings of the system confirms these conclusions. That in practice the system fails utterly is patent to every observer. With a thousand assessors in a single state no one could hope for a uniform basis for determining "market value." With the growth of intangible property, not even the most rigorous laws can discover it. Every treatise on taxation, every report of a state tax commission demonstrates that the general property tax when applied to present industrial conditions fails to distribute the burden equally among the classes, and it fails to distribute it equally within them. Although all admit that it does not secure equality of burden, this does not confound its advocates. The legislators and

Adams: Finance, p. 362.

commissions cling to the system because of its fundamental idea that justice is secured by the taxation of the individual according to his property. The Wisconsin commission says: "Equality of contribution to the public burden is essential to equality of social and political right.... The safety of all interests rests on the principle of uniformity between all classes of property. There must be equality between the classes as well as between the property in the same class." <sup>27</sup>

Such a program fails to recognize modern industrial conditions, and patent fiscal practices. The trend of the organization of industry has been towards the development of corporations. Legal entities have taken the place of individuals in carrying on the industry of the country. The tendency and necessity have been for segregation and classification rather than aggregation and unification of property. The industrial organization is now so complex that uniformity between classes of property is an indefinite, indefinable, and unattainable "ideal."

What the Wisconsin and Michigan experience shows, what is made evident by the history of taxation in this country is the selection of classes of property for special taxation. Real property has been the bearer in the past, corporations are having especial attention at present, and especially, corporations receiving special privileges from the state. A frank recognition of the true state of affairs would do much to clear away the debris in our tax systems.

The selections having been made, as in the past, according to "social utility," <sup>28</sup> the regulation of rate should not be based upon a comparison where no comparison is pos-

<sup>\*\*</sup> Report, 1902, p. 180.

<sup>\*\*</sup>For a suggestive paper on the "social utility theory," see the Presidential address of Edwin R. A. Seligman. Publications of the American Economic Association. Third Series, Vol. V, No. 1.

sible, but on the conditions within the industry and on fiscal policy.

Had the Wisconsin commission frankly recognized this principle and said "we believe that the railways are able to contribute more revenue to the state and that it is desirable to levy a heavier rate upon them," the present system, based upon a false premise with its possibilities of political corruption, would not have been substituted for the tax on gross earnings.

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# APPENDIX.

# TABLE NO. I.1

#### THE CLASSIFICATION IN WISCONSIN.

# Railroads of the First Class.

| Company                       | Mileage    | permie, in      | ercentage<br>t operale<br>ny evoluse<br>is to gross<br>armings, | Taxes percent a.e of gross caungs |
|-------------------------------|------------|-----------------|-----------------------------------------------------------------|-----------------------------------|
| Chicago, Milwaukee & St. P.   | 1.650.46   | \$7,707.53      | 56.05                                                           | 4                                 |
| Chicago & Northwestern        | 1,625.73   | 7,883.90        | 62.37                                                           | 4                                 |
| C., St. P., Mpls. & Eastern   | 619.11     | 6.150.45        | 76.73                                                           | 4                                 |
| Chicago, Burlington & Q       | 222.57     | 5,907.89        | 61.18                                                           | 4                                 |
| C., Lake Shore & Eastern      | 17.33      | 4,119.53        | 64.13                                                           | 4                                 |
| Eastern Ry. Co. of Minn       | 38.15      | 13,016.48       | 43.02                                                           | 4                                 |
| Minn., St. P. & S. Ste. Marie | 217.42     | 5,314.44        | 54.05                                                           | 4<br>4<br>4                       |
| Northern Pacific              | 102.92     | 4,179.32        | 46.92                                                           | 4                                 |
| Wisconsin Central             | 874.16     | 5,180.16        | 59.58                                                           | 4                                 |
| Railroads                     | of the Thi | Averag<br>Mean, | ge, 58.22<br>59.58                                              | _                                 |
| Duluth, S. Shore & Atl        | 110.60     | \$2,407.10      | 74.51                                                           | 2                                 |
| Green Bay & Western           | 225.00     | 2,130.04        | 82.28                                                           | 3                                 |
| Kewaunee, Gr. Bay & West      | 36.00      | 2,432.64        | 51.27                                                           | 3                                 |
| Wisconsin & Michigan          | 40.12      | 2,176.70        | 62.00                                                           | 3<br>3<br>3<br>3                  |
|                               |            | Avera<br>Mean,  |                                                                 |                                   |
| Railroads                     | of the Fou | rth Class.      |                                                                 |                                   |
| Milwaukee & Superior          | 26.16      | \$1,878.81      | 65.00                                                           | \$5+21%                           |
| Minnesota & Westerna          | 21.00      | 1,650.88        |                                                                 | \$5+21%                           |
| Washburn, Bayfield & I. R     | 64.00      | 1,728.94        |                                                                 | \$5+21%                           |
|                               |            | Avera<br>Mean,  |                                                                 |                                   |

<sup>&</sup>lt;sup>2</sup> Tables include railways in Wisconsin over 15 miles in length doing business in 1899. The statistics are for the calendar year 1899, taken from report of Railroad Commissioner of Wisconsin, 1900. Mileage, gross earnings per mile and per cent. of taxes to gross earnings found on pp. 12, 13, of part two; percentage of operating expenses to earnings, p. 81. There were no roads in the second class for this year.

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# Railroads of the Fifth Class.

| Company                                                 | Mileage | Gross earnings<br>per mile. | Percentage of operating expenses to gross earnings | Taxes<br>per<br>mile. |
|---------------------------------------------------------|---------|-----------------------------|----------------------------------------------------|-----------------------|
| Abbotsford & Northern                                   | 15.16   | \$996.65                    | 69.50                                              | \$5.00                |
| Ahnapee & Western                                       | 34.00   | 1,044.30                    | 54.60                                              | 5.00                  |
| Big Falls Ry. Company                                   | 21.00   | 458.51                      | 93.30                                              | 5.00                  |
| Chicago, Mad. & Northern                                | 91.31   | 1,095.73                    | 123.68                                             | 5.00                  |
| Chippewa Riv. & Menominee                               | 33.00   | 925.16                      | 74-37                                              | 5.00                  |
| Drummond & South West'n                                 | 27.72   | 600.71                      | 97.90                                              | 5.00                  |
| Fairchild & Northeastern                                | 30.00   | 1,185.88                    | 50.55                                              | 5.00                  |
| Hazlehurst & Southeastern<br>Kickapoo Valley & Northern | 17.00   | 1,167.22                    | 72.00                                              | 5.00                  |
| (fraction of year)                                      | 51.00   | 658.00                      | 150.00                                             | 5.00                  |
| Lake Sup. Ter. & Tr. Ry. Co.                            | 15.00   | 708.28                      | 79.90                                              | 5.00                  |
| Marshfield & Southern                                   | 33.00   | 1,190.63                    | 50.90                                              | 5.00                  |
| Marinette, Tom. & Western.                              | 33.30   | 1,269.13                    | 86.18                                              | 5.00                  |
| Minn., St. P. & Ashland                                 | 35.50   | 731.94                      | 54.05                                              | 5.00                  |
| _                                                       |         | Average<br>Mean,            | 81.14<br>74.37                                     |                       |

# TABLE NO. II.

#### RATIO OF OPERATING EXPENSES TO GROSS EARNINGS.

# According to Gross Earnings per Mile in Several States.

#### Per Cent. of Operating Expenses to Gross Earnings.

| Gross<br>Earnings<br>per mile. | Minnesota | Missouri | Michigan             |
|--------------------------------|-----------|----------|----------------------|
|                                |           | •        |                      |
| \$1,000                        | 106       | 84       | 27                   |
|                                |           | 84<br>67 | 58                   |
|                                |           | 275      | <b>8</b> 1           |
|                                |           |          | 58<br>81<br>87<br>61 |
|                                |           |          | 61                   |
|                                |           |          | 73                   |
|                                |           |          | 101                  |
|                                |           |          | 100                  |
|                                |           |          | 59                   |
|                                |           |          | 59<br>38             |
|                                |           |          | TOT                  |

<sup>&</sup>lt;sup>a</sup> The Glenwood and Northeastern (15 miles) reported operating expenses \$12, 719.98, total gross receipts \$185. Being abnormal, it was omitted. The Matton Railway Company, 21 miles, and Holmes Brothers' Railway, 27 miles, both evidently logging roads, made very incomplete reports and could not be included. Several roads of the

|                                | ••                   |            |            |
|--------------------------------|----------------------|------------|------------|
| Gross<br>Earnings<br>per mile, | Minnesota            | Missouri   | Michigan   |
| \$2,000                        | 58                   | 97         | 84         |
| 42,000                         | -                    |            |            |
|                                | 57.8                 | <b>90</b>  | 66         |
|                                | 139                  | 81         | 57<br>82   |
|                                | 100<br>126           | 57         | 82         |
|                                | 120                  | 121        | 65         |
|                                |                      | <i>7</i> 6 | 74         |
|                                |                      |            | 74<br>66   |
|                                |                      |            | 00         |
|                                |                      |            | 85<br>66   |
|                                |                      |            | 00         |
| 3,000                          | <b>z</b> 6           | <b>#</b> 0 | 105        |
| 3,000                          | 56<br>62             | <b>79</b>  | 69         |
|                                | 86                   |            | 69         |
|                                | 80                   |            | 112        |
| •                              |                      |            | 63         |
|                                |                      |            | 74         |
|                                |                      |            | 74         |
|                                |                      |            | 31<br>74   |
|                                |                      |            | 74<br>69   |
|                                |                      |            | 72         |
|                                |                      |            |            |
|                                |                      | •          | 74<br>78   |
| 4,000                          | 71                   | 81         | 7 <b>4</b> |
| 4,                             | 71<br>87             | •-         | 74         |
|                                | ٠,                   |            | 75         |
| 5,000                          |                      |            | 75         |
| •                              |                      |            | 70         |
|                                |                      |            | 79<br>66   |
|                                |                      |            | 75         |
| 6,000                          | 55.8                 | 62         | 75         |
| -,                             | 56                   | 65         |            |
|                                | 71                   | 72         |            |
|                                | •                    | 75         |            |
|                                |                      |            |            |
| 7,000                          | 52                   | 71<br>61   |            |
| •                              | _                    | 64         |            |
|                                |                      | <i>7</i> 0 |            |
| 8,000                          | 89                   | 60         | <b>6</b> 6 |
| ·                              | 54.9                 |            | 54         |
|                                | 51                   |            | •          |
| 9,000                          | <del>7</del> 9       | 8o         | 73         |
| <b>3</b> ,                     | 43.8                 |            | 73<br>86   |
| 10,000                         | 45.0                 | 79<br>60   | 74         |
| ,                              | 45.9<br><b>43.</b> 8 | 65         | 74         |
|                                | 47                   | -5         | 77         |
| 20,000                         | 47<br>67             |            |            |
|                                | 40                   |            |            |
| 40,000                         | 49<br>63.9           |            |            |
|                                |                      |            |            |

fifth class did not give the percentage of operating expenses to gross earnings, and it was computed from pp. 12, 13, 17 of the report.

<sup>&</sup>lt;sup>8</sup> Compiled from Report Minnesota Railroad and Warehouse Commission, 1904, pp. 110-113.

# TABLE NO. III.

# MICHIGAN RAILROAD APPRAISAL.

| Mileage Michigan Central 221 Tol., C. S'n & Det 47                                                                                                                   | Gross earnings<br>per mile<br>\$19,285<br>15,570   | Cooley valuation per mile<br>\$93,081<br>55,500          | Adams valua-<br>tion per mile<br>\$41,359<br>IOI,862 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------------|------------------------------------------------------|
| Detroit & Luna Northern 17<br>Chicago & Grand Trunk. 224                                                                                                             | \$18,424<br>\$9,760<br>9,628<br>                   | \$14,290<br>\$18,867<br>32,019<br><br>\$25,443           | \$71,630<br>12,849<br>\$6,424.5                      |
| Det., Monroe & Toledo 54<br>Mineral Range 17                                                                                                                         | \$8,446<br>8,227<br>\$8,336.5                      | \$49,730<br>22,989<br><br>\$36,359.5                     | \$18,345<br>7,635<br>\$12,290                        |
| Det., Gr. H. & Milw                                                                                                                                                  | \$5,514<br>\$5,299<br>\$5,288<br>5,283             | \$37,733<br>\$35,249<br>\$23,283<br>37,082               | \$20,857<br>\$18,112<br>1,391                        |
| Grand Rap. & Ind 357<br>Det. & Bay Cy. (M. C.). 138<br>C., C., C. & St. L 35                                                                                         | \$5,446<br>\$4,718<br>4,689<br>4,231               | \$33,337<br>\$25,665<br>20,498<br>27,419                 | \$10,090<br>\$2,168                                  |
| Minn., St. P. & S. Ste. M. 199<br>Ann Arbor                                                                                                                          | \$4,549<br>3,905<br>3,805<br>3,724                 | \$25,194<br>23,886<br>25,567<br>49,895                   | 722                                                  |
| Chicago & Northwestern 521<br>D. G. R. & Western 380<br>Jackson, Lansing & S 322<br>Manistee & Northwestern. 69<br>Grand River Valley 83<br>Dul., S. Shore & Atl 429 | 3,514<br>3,505<br>3,482<br>3,452<br>3,421<br>3,379 | 30,390<br>20,127<br>32,641<br>16,160<br>23,061<br>26,222 | 4,115<br>699<br>6,664<br>8,515                       |
| Flint & Pere Marquette 710<br>Musk., G. R. & Ind 36<br>Chicago & Great Western. 454                                                                                  | 3,356<br>3,260<br>3,146<br>\$3,495                 | 24,002<br>16,157<br>20,673<br>\$24,981                   | 410<br>3,282<br>\$2,060                              |
| Michigan Air Line 109 Ka. & White Pigeon 36 Kal., Al. & G. R 58                                                                                                      | \$2,788<br>2,516                                   | \$26,259<br>19,585                                       | \$3,153<br>3,094                                     |
| Cinn., Sag. & Mack 53                                                                                                                                                | 2,396<br>\$2,566                                   | 25,694<br>\$23,846                                       | \$20,821                                             |

# TABLE NO. VI.4

#### RAILWAY OPERATIONS IN THE UNITED STATES.

|                                                      | 1904             | 1903             | 1902             | 1901             | 1900             | z <b>8</b> 99    |
|------------------------------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Gross earnings from operation Less operat'g expenses | \$9,306<br>6,308 | \$9,258<br>6,125 |                  | \$8,123<br>5,269 | \$7,722<br>4,993 | \$7,000<br>4,570 |
| Income from operation Income from other              | \$2,998          | \$3,133          | \$3,048          | \$2,854          | \$2,729          | \$2,435          |
| sources                                              | 1,003            | 1,002            | 981              | 919              | 846              | 793              |
| Total income Total deductions                        | \$4,001<br>2,688 | \$4,133<br>2,692 | \$4,029<br>2,629 | \$3,773<br>2,338 | \$3,575<br>2,395 | \$3,228<br>2,353 |
| Net Income                                           |                  | \$1,443<br>960   | \$1,400<br>926   | \$1,235<br>802   | \$1,180<br>725   | \$875<br>592     |
| Surplus from operation                               | \$267            | \$483            | \$474            | \$433            | \$455            | \$283            |

# TABLE NO. VII.

#### RAILWAY EARNINGS IN THE NORTH CENTRAL STATES.

| Year | Gross<br>Earnings<br>per mile. | Net<br>Earnings<br>per mile. | Per cent Operating Expenses to Gr. Ear. | Interest<br>paid on<br>Bonded<br>Debt. | Divi-<br>dends<br>paid. |
|------|--------------------------------|------------------------------|-----------------------------------------|----------------------------------------|-------------------------|
| 1896 | \$5,999                        | \$1,806                      | 69.89                                   | 4.73                                   | 2.22                    |
| 1897 | 5,900                          | 1,811                        | 69.31                                   | 4.52                                   | 2.21                    |
| 1898 | 6,408                          | 1,955                        | 69.49                                   | 4.53                                   | 2.52                    |
| 1899 | 6,935                          | 1,169                        | 68.72                                   | 4.50                                   | 2.77                    |
| 1900 | 7,628                          | 2,323                        | 69.51                                   | 4.41                                   | 3.18                    |
| 1901 | 7,913                          | 2,325                        | 70.62                                   | 4.32                                   | 3.31                    |
| 1902 | 8,336                          | 2,507                        | 69.92                                   | 4.41                                   | 3.53                    |
| 1903 | 8,837                          | 2,571                        | <i>7</i> 0.81                           | 4.22                                   | 3.65                    |

# TABLE NO. VIII.

# PER CENT. OF OPERATING EXPENSES TO GROSS EARNINGS. All Railways in the United States.

| -           |       |               |       |       |       |       |
|-------------|-------|---------------|-------|-------|-------|-------|
| Group       | 1904  | 1903          | 1902  | 1901  | 1900  | 1899  |
| I           | 73-35 | 73.17         | 71.07 | 69.98 | 69.49 | 68.88 |
| _ <u>II</u> | 67.26 | 66.07         | 64.98 | 64.90 | 64.40 | 65.31 |
| III         | 74.52 | 71.58         | 69.49 | 67.47 | 69.22 | 70.53 |
| IV          | 64.01 | 63.15         | 60.66 | 62.35 | 62.79 | 64.27 |
| V           | 70.66 | 69.88         | 68.94 | 68.27 | 67.99 | 67.95 |
| VI          | 65.90 | 62.72         | 61.48 | 63.00 | 61.91 | 61.18 |
| VII         | 56.84 | 57.03         | 56.59 | 60.42 | 58.05 | 56.34 |
| VIII        | 67.11 | 64.00         | 62.01 | 61.83 | 63.71 | 65.54 |
| IX          | 75.96 | <i>7</i> 8.41 | 74.00 | 68.18 | 73.63 | 70.02 |
| X           | 57.67 | 56.86         | 56.72 | 57.41 | 55.82 | 61.48 |
|             |       | <del></del>   |       |       |       |       |
|             | 67.79 | 66.16         | 64.66 | 64.86 | 64.65 | 65.24 |

<sup>\*</sup>Statistics of Railways in the United States, 1904, p. 80.

Poor's Manual, 1904, p. XIV.

Statistics of Railways, 1904.

Proposed Bill relating to license fees for the operation of railroads in this state, to amend sections 1211, 1212, 1213 and 1214 of the statutes of 1898, and to add sections 1213a, 1213b and 1213c.

The people of the State of Wisconsin, represented in senate and assembly, do enact as follows:

Section I. Section 1211 of the statutes of 1898 is hereby amended to read as follows:

Section 1211. Every person, association, company or corporation operating a railroad in this state, except street railways, shall, on or before the 10th day of February in each year make and return to the State Treasurer in such forms and upon such blanks as shall be furnished by him, a true statement of the gross earnings of their respective railroads for the preceding calendar year, including the proportionate part of the gross earnings from interstate traffic and business earned within the state as provided in section 1213, of the number of miles of railroad operated by each person, association, company or corporation, and the gross earnings per mile during such year, which statement shall be verified by the oath of such person or of the president or other chief officer and the secretary, auditor or treasurer of such association, company or corporation so operating such railroad. A duplicate of such statement shall at the same time be returned by the company to the commissioner of taxation.

Section 2. Section 1212 of the statutes of 1898 is hereby amended to read as follows:

Section 1212. Each such person, association, company and each corporation shall, on returning such statement apply for a license to operate and to exercise the franchises of such railroad mentioned in such statement, and shall pay the license fee therefor, as provided in section 1213, and if such statement is approved by the railroad

commissioner upon the payment of the first installment of said license fee as provided in section 1213, shall receive from the state treasurer a license to operate such railroad for the calendar year commencing on the first day of January preceding and terminating on the next succeeding thirty-first day of December, unless sooner revoked; provided, however, unless such statement is approved by the commissioner of taxation, and his certificate of approval thereof is filed with the state treasurer, the payment of the license fee on the gross earnings reported by the railroad and the issuance of a license by the state treasurer shall not affect or be a waiver of the right of the state to ascertain, demand and receive such further sum as license fees on gross earnings as shall be found due and remain unpaid.

Section 3. Section 1213 of the statutes of 1898 is hereby amended to read as follows:

Section 1213. The annual license fee for the operation of such railroads within the state shall not be less than three per cent., nor exceed five and one-half per cent., of their annual gross earnings, and shall be graduated according to gross earnings per annum per mile of operated railroad as follows:

For all railroads whose gross earnings per mile shall not exceed two thousand dollars the license fee shall be three per cent. of such gross earnings; for all railroads whose gross earnings shall exceed two thousand dollars per mile, the license fee shall be three per cent. of such gross earnings and in addition thereto one-tenth of one per cent. for each one hundred dollars or fraction thereof of gross earnings per mile in excess of two thousand dollars, as shown in the following schedule:

| Gross earnings per mile.        | Rate of license fee |
|---------------------------------|---------------------|
| \$2000 or less                  | 3 per cent.         |
| Over \$2000 and not over \$2100 | 3.I per cent.       |
| Over \$2100 and not over \$2200 | 3.2 per cent.       |
| Over \$2200 and not over \$2300 | 3.3 per cent.       |
| Over \$2300 and not over \$2400 | 34 per cent         |
| Over \$2400 and not over \$2500 | 3.5 per cent.       |
| Over \$2500 and not over \$2600 | 3.6 per cent.       |
| Over \$2000 and not over \$2700 | 3.7 per cent.       |
| Over \$2700 and not over \$2800 | 38 per cent         |
| Over \$2800 and not over \$2000 | 3.0 per cent.       |
| Over \$2000 and not over \$3000 | 4 per cent.         |
| Over \$3000 and not over \$3100 | 4.I per cent.       |
| Over \$3100 and not over \$3200 | 4.2 per cent.       |
| Over \$3200 and not over \$3300 | 4.3 per cent.       |
| Over \$3300 and not over \$3400 | 4.4 per cent.       |
| Over \$3400 and not over \$3500 | 4.5 per cent.       |
| Over \$3500 and not over \$3600 | 46 per cent.        |
| Over \$3600 and not over \$3700 | 47 per cent.        |
| Over \$3700 and not over \$3800 | 48 per cent.        |
| Over \$3800 and not over \$3900 | 4.9 per cent.       |
| Over \$3900 and not over \$4000 | 5 per cent.         |
| Over \$4000 and not over \$4100 | 5.I per cent.       |
| Over \$4100 and not over \$4200 | 5.2 per cent.       |
| Over \$4200 and not over \$4300 | 5.3 per cent.       |
| Over \$4300 and not over \$4400 | 5.4 per cent.       |
| Over \$4400                     | 5.5 per cent.       |

The gross earnings upon which the license fee aforesaid shall be computed and paid shall include the whole of the gross earnings from traffic business beginning and ending in this state, together with such proportion of the whole of every toll, rate, fare, charge, credit or receipt paid for, or on account of traffic or business through this state or partly within and partly without this state as the mileage within this state shall bear to the whole mileage for which each such separate toll, rate, fare, charge, credit or receipt was made or shall have accrued.

One-half of the license fee shall be paid at the time the license so issues and one-half on or before the tenth day of August in each year.

Such license shall be in lieu of all other taxes upon the franchises and all other property of the railroad necessarily used in the operation of such railroads in this state.

Section 4. If at the time this act shall go into effect any license shall have been issued to any person, association, company or corporation to operate a railroad in this state subject to pay a license fee under this act for the year ending on the thirty-first day of December, 1901, for a less license fee than is provided in this act, such license shall thereupon become void, unless such person, association, company or corporation, shall, on or before the tenth day of August in the year 1901, pay the increase of the license fee imposed upon such person, association, company or corporation by this act for that portion of the year covered by such license remaining after this act shall go into effect; the license fee to be paid for such unexpired year to bear the same proportion to the amount of the annual license fee to be paid by the terms of this act by such person, association, company or corporation as such unexpired term bears to one year.

Section 5. Chapter 51 of the statutes of 1898 is hereby further amended by adding after section 1213 three new sections to be designated as sections 1213a, 1213b, 1213c, as follows:

Section 1213a. In case the statement of gross earnings of any railroad shall not be approved by the commissioner of taxation as provided in section 1212, the commissioner of taxation and the first and second commissioners of taxation, who are hereby constituted a board therefor, shall ascertain and determine the amount of the gross earnings of such railroad and compute the amount of license fee to be paid thereon. The proceedings for such determination shall be commenced by such board within sixty days after such statement of gross earnings shall have been filed with the state treasurer and the commissioner of taxation. At or before the commencement of such proceeding the said board shall, by registered letter, give notice to the person, association, company or corporation making such statement of gross earnings, that such statement is not approved, that said board will ascertain and determine the amount of such gross earnings and of the license fee to be paid thereon pursuant to these statutes, and shall in such notice, or in a later notice before such determination shall be accomplished, fix a time and place at which said person, association, company or corporation may be heard and present evidence in relation thereto. For the purpose of making such determination said board shall have authority to examine the records, books and accounts of the person, association, company or corporation making such statement and may employ experts to aid in such examination, and such person, association, company or corporation shall furnish such further statement or information as said board shall require in any way relating to or affecting such earnings. Said board shall have authority to summon and examine witnesses and cause the production of books and papers and may obtain and procure such other evidence or information as said board shall deem pertinent to such inquiry. The said board shall consider all the reports, books, accounts, evidence and other information, obtained, and shall, according to their best knowledge and judgment, ascertain and determine the gross earnings of such person. association, company or corporation within the state and the license fee which shall be paid thereon. Such determination when made shall be entered upon the records of said board and same shall be presumed to be correct and true and shall be taken as prima facie evidence of the amount of such gross earnings and of the license fee due thereon in every action and proceeding in which the same may be drawn in question.

Section 1213b. Such determination shall be certified to the state treasurer who shall thereupon by registered letter give notice thereof and of the amount of gross earnings and license fee so determined to the person. association, company or corporation operating such rail-



raod. If the amount of the license fee so determined shall be greater than the amount shown to be due by the report of the earnings of such railroad filed with the state treasurer under the provisions of sections 1211, the person, association, company or corporation operating such railroad shall make payment of one-half of the amount of such increase within thirty days after notice of such determination, and the other one-half at the time provided by law for the payment of the second installment of such license fee or within thirty days after such notice if the time for payment of such second installment shall have expired or shall expire within said thirty days.

Section 1213c. Any person, association, company or corporation claiming to be aggrieved by such determination, may, within six months after payment of the final installment of the license fee thereby imposed but not thereafter, bring an action against the state in the circuit court for Dane County to recover such sum, if any, as shall be alleged and proved to be included in such fee and payment in excess of the true amount which should have been imposed. The state may be served with a summons in such action by delivering a copy to the attorney-general or leaving it at his office with one of his assistants. The attorney-general shall defend such actions and shall render such assistance as such board may require in the proceedings to determine the gross earnings of any rail-road.

Section 6. Section 1214 of the statutes of 1898 is hereby amended to read as follows:

Section 1214. If any person, association, company or corporation operating any railroad in this state shall neglect to obtain such license or pay the license fee therefor, or any part thereof, as hereinbefore provided, such person, association, company or corporation shall absolutely forfeit to the state a sum equal to ten per cent. of

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the license fee neglected to be paid, to be recovered in an action brought in the name of the state; and such neglect shall also be a cause of forfeiture of all the rights, privileges and franchises, whether granted by special charter or obtained under general laws by or under which any such railroad is operated. And the attorney-general, upon such neglect, shall collect by action the pecuniary forfeiture herein imposed and also proceed to have forfeiture of such rights, privileges and franchises duly declared. If any license shall have been issued prior to such default in payment the same shall be revoked by the state treasurer whenever such default shall occur. such person, association, company or corporation at any time before the final judgment of forfeiture of such rights. privileges and franchises is rendered may be permitted to make the return and pay such license fee upon special application to the court in which the action to declare such forfeiture is pending, upon such terms as the court shall direct.

Section 7. This act shall take effect and be in force from and after its passage and publication."

'Senate Bill Number 94, proposed by Tax Commission, January 30th, 1901.



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